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Disinfecting of Putrid, Noxious Gases.

The following is from the "Courier and Enquirer," by E. Merriam, and will be found very efficacious for the purposes specified:

"A simple, cheap, and easy way of disinfecting putrid, noxious, fœtid and mephtic gases, and putrid animal matter, may be accomplished by the free use of soda ash and quick lime. Dissolve twenty-five pounds of soda ash in five buckets of boiling hot water, and while hot slake twenty-five pounds of quick lime, and as soon as slaked, (which, if the lime is good, will not exceed five minutes,) mix the fresh slaked lime while hot with the solution of the soda ash, stirring it thoroughly for five minutes, by which time the lime will have taken up the carbonic acid of the soda ash; then pour the hot mixture into the privy vault, and it will in a few hours convert the impure and fœtid gases into ammonia, and entirely divest the premises of any unpleasant effluvia, and render the atmosphere perfectly salubrious and healthy. Soda ash of eighty per cent. free alkali is sold at the soap houses at three dollars per hundred pounds, and Athens lime can be bought by the barrel at seventy-five cents the cask.

Every practical chemist knows that putrid animal matter can be converted into ammonia by the mixture (in a heated state) with caustic alkali. Such is the process, and such the result in this case.

In large vaults a greater quantity than twenty-five pounds is required; the quantity should be increased in proportion to the size of the vault.

The use of one hundred pound of soda ash, per annum, in a vault prepared and used as directed above, will prevent accumulation, and render the services of a scavenger unnecessary.

Bilgewater may be purified by the same process.

This preparation is more economical than chloride of lime, is fifty times mere efficacious, and one thousand times more healthful.

I have used this preparation for more than twenty years, with the most complete success."

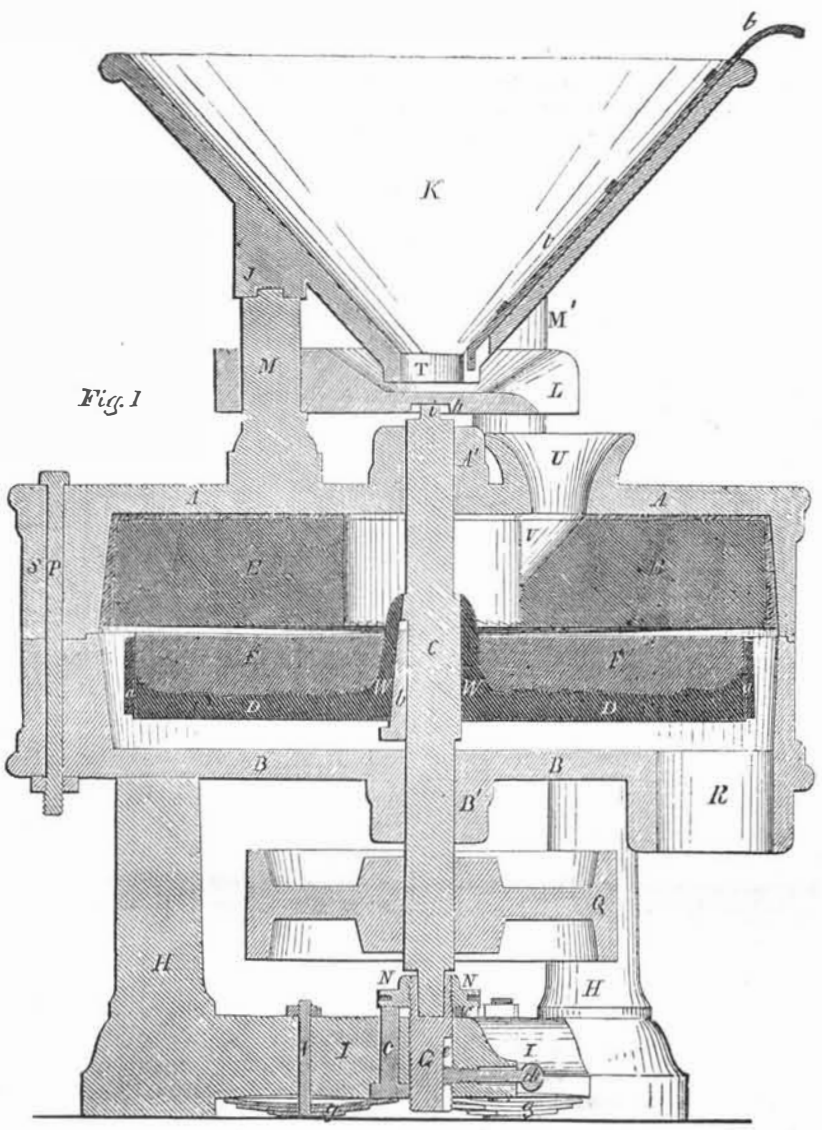
[Chlorine gas has been stated to be very injurious and dangerous as a disinfecting agent, but this is not correct. It is true that it is suffocating in its effects, but that is no sign of danger, any more than the use of salt in large quantities, for seasoning our food. In small quantities salt it necessary and healthful; in large quantities it is neither one nor the other—in fact, very strong salt brine is poisonous. It is the same with the chlorate of lime as with salt, only it is applied differently and for another purpose. When used in small quantities, it is perhaps the best, most convenient and cheapest disinfectant that can be applied.

Steamboat Accidents in the West.

The Missouri "Republican" asserts that during the past six months of 1854, steamboat disasters to an unparalled degree have taken place on our Western waters, but we believe there have been fewer cases of explosions than during any period for a number of years prior to the passage of the new steamboat law.

HARRISON'S GRINDING MILL.

Fig. 1



The annexed figure is a vertical section through the middle of the improved Grinding Mill, for which a patent was granted to Edward Harrison, of New Haven, Conn., on the 6th of last month (June, 1854.) This is constructed wholly of stone and metal.

Matched casings, A and B, receive the stationary grinding stone, E, and the runner, F D W. The stationary stone, E, is cemented and firmly secured within the upper casing, A; and the runner is rigidly secured to shaft C, and rotates freely within the lower casing, B. The lower casing, B, has three hollow columns, H, descending from its under side, upon which the mill rests, which columns are connected to each other at their lower ends by the three arms base, I, &c. Three standards, M M', &c., rise from the upper casing, A, and support the hopper, K; the sockets, J J J, being cast upon the under side of the hopper, which receive into them the upper ends of the said standards. The shoe, L, is supported and vibrated in the following manner, viz.: a smooth vertical hole is formed in the rear end of the shoe, which receives the standard, M, fig. 1. A slot, *h*, is formed in the under side of the shoe, which receives into it a pivot, *i*, that rises from an eccentric position on the top of the shaft, C. Consequently, it will be perceived that the rotation of the shaft will impart the requisite vibration to the shoe. The discharge of the grain from the hopper into the shoe is governed by varying the size of its discharging aperture, T, by means of the sliding gate, *t*. The grain falls from the open end of the shoe into the open mouth of the aperture, U, in the upper casing, and thence it passes into the inclined passage, V, in the upper stone, which conducts it into the eye of the same. The instant that the grain falls upon the center of the runner, it is thrown outwards by centrifugal force between the grinding surfaces of the runner and the stationary stone, which enables the highest safe velocity to be given to the runner without the possibility of the accumulation of grain within the eye of the stationary stone.

The runner is formed of a united metallic back, D, and hub, W, combined with a disk face composed of the requisite quantity and quality of stone. The said back and hub of the runner may be formed of soft metal, and be cast upon the back and within the eye of a prepared stone; or be formed of cast iron and the stone face be fitted and connected to the back and around the hub of the same. A band, *a*, closely embraces and unites the peripheries of the metallic side of the said back. The shaft, C, is provided with three bearings, viz., one in the center of each of the upper and lower casings, A and B, and the step, G, at its lower end.

The hub-like outwards projections, A' and B', which form the centers of the casings, A and B, that receive the shaft, C, should be cast of such a shape as to enable them to receive bushings or bearing surfaces of Babbit metal.

The shaft, C, has a vertically elastic and an adjustable bearing by means of the following arrangement of parts, viz., the step, G, of the shaft, passes down through a hole in the center of the base, I, &c., and has a screw cut upon its periphery, which is embraced by the supporting and adjusting nut, N. To the under side of the respective arms, I, of the base, there are secured the springs, *g g g*, by means of the sustaining and adjusting screw bolts, which pass up through the said arms of the base. On the inner end of each spring, *g*, a rod, *c*, rests and rises through a hole in the base near to the central opening in the same, which receives the step; and upon the upper ends of the said rods, *c c c*, the nut, N, rests.

The stiffness of the springs, *g g g*, can be varied by means of the screw bolts, and the shaft, C, can be raised or lowered by turning the nut, N. The step, G, is prevented from turning with the nut, N, by means of a longitudinal groove, *e*, in its side, and the screw, *d*, which passes into the same.

The following are some of the advantages derived from constructing the runner of a metallic back and hub, combined with a stone grinding face, viz., the stone grinding face of the runner can be worn nearly to its metallic back with perfect safety; and when it is so much worn as to be unfit for use it can be replaced at a comparatively small expense. Second, the runner is enabled to be so rigidly and securely confined to the shaft, that when placed in a metallic supporting frame—the stationary stone and the runner can be truly and accurately faced by grinding them together. Third, a large size of runner can with perfect safety be rigidly confined to a shaft, provided the shaft be of sufficient strength, and the hub be of sufficient hight.

This is not the first patent obtained by Mr. Harrison, and 250 of his mills have been sold during the past year. He manufactures such mills from 20 inches to 5 feet in diameter at his new steam mills, No. 134 Orange street, New Haven.

The diameter of the stones and the prices of these mills are as follows:—20 inch mill, $100: 30 inch, $200; 3 feet, $300, and 4 feet $400. The 20 inch is a superior farm and plantation mill, grinding corn and all kinds of grain in the best manner, by horse power and also by hand. The 30 inch mills are now used in place of common stone in many of the best mills in the country, with decided advantage, both in the power required and in the quality and quantity of the meal. Millers who prefer large size stones, will find the 3 and 4 foot mills to be suitable for the largest business. They can be driven 600 revolutions a minute with safety.

One of these entire mills, including the hopper, with stones two feet and a half in diameter, and each of them cut from a solid block of burr, weighing in all about 1,300 pounds, and warranted capable of grinding, in the best manner 25 bushels per hour of flour or meal, may be packed in a cask thirty-four by forty-two inches inside, and thus transported in safety to any part of the world.

More information may be obtained by letter addressed to the patentee.

Over-Honest Silver Coin.

The U. S. Mint, under instructions from the Secretary of the Treasury, has been examining some counterfeit coins in circulation, and among others they found Mexican dollar-pieces worth 109 cents. They under assay gave an average fineness of 776 thousandths, and a consequent value of 91 1-4 cents in silver.—The amount of gold contained in them is sufficient to add 12 cents to the value of each, after paying the charge of separating, making a net value of 103 cents; and if to this the usual premium on silver is added, the worth of this counterfeit coin is actually 109 cents.—[Phila Ledger.

Subterranean Air Essential to the Growth of Vegetation.

There is now on exhibition at the Crystal Palace, from Holland, a long pointed iron socket attached to a wooden handle, labelled, "to promote the growth of fruit trees." The mode of using is not specified, and we can only conjecture that it is for making holes and breaking up the earth around the roots—not a bad idea, we think.—[American Agriculturist.

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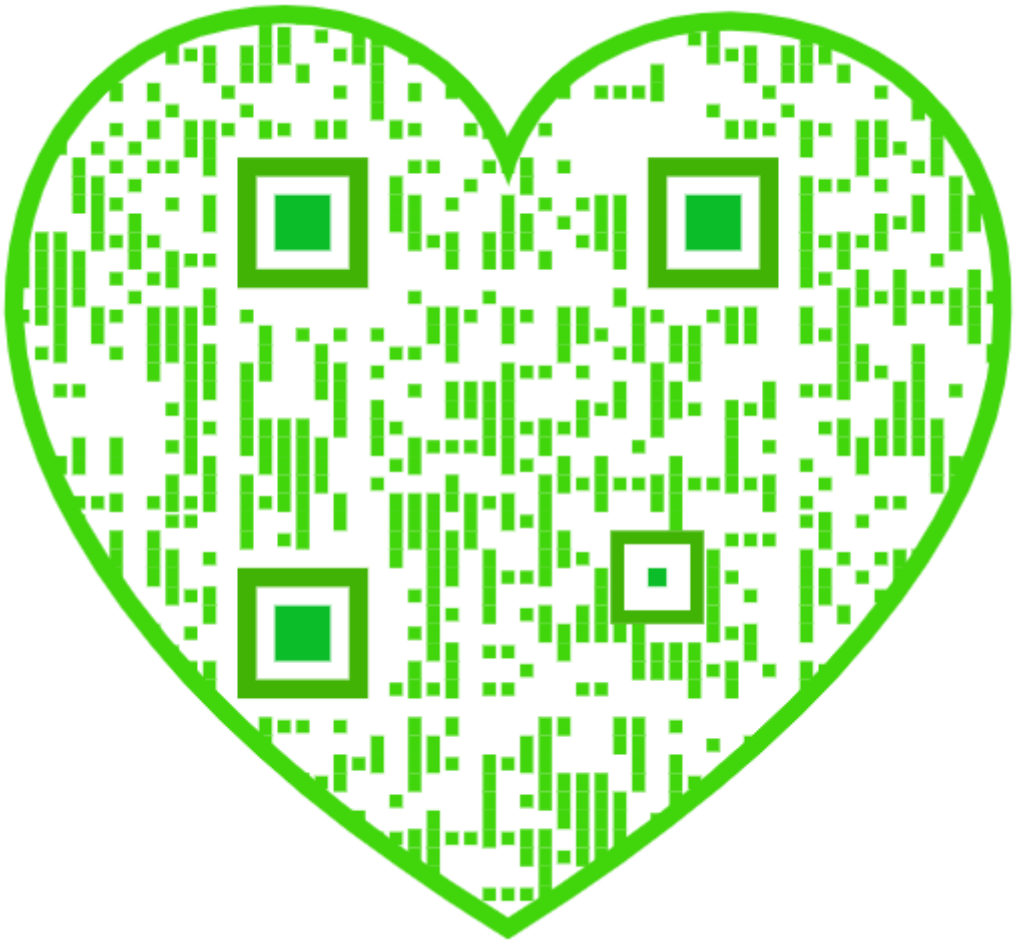

(For the Scientific American.)
Flax Industry.—No. 11.

The average annual exportation of linens from Great Britain, during the years 1833 to 1838, inclusive, was as follows:—

To the United States,	25,377,000	yards.
" British West Indies,	12,437,000	do.
" Other W. I. Islands,	5,820,000	do.
" Spain,	5,000,000	do.
" Brazil,	6,509,000	do.
" Portugal,	1,495,000	do.
" France,	6,100,000	do.

In 1800, according to Eden, the value of the annual production of linens in Great Britain was $10,000,000. McCulloch, in 1837, gave as his opinion that the vallue of the annual production of linens did not exceed $40,000,000, of which three-eighths were sold in foreign markets. Colquhon, writing about the same time, raises the estimate as high as $60,000,000, which last is believed to have been nearer the truth than the value given by McCulloch.

In 1820, 28,238,000 lbs. of flax, tow, and hemp were imported into Great Britain, in 1839 no less than 122,374,000 lbs. were imported, being an increase of 94,136,000 lbs.

In 1840, there were imported into Great Britain 127,830,480 lbs. of flax, and 69,774,936 lbs. of hemp. In 1849, the amount had risen to 184,292,000 lbs. of flax, and 108,250,000 lbs. of hemp; the average import, during these ten years, being 139,279,848 lbs. of flax and 82,665,556 lbs. of hemp.

The following table gives the amount of flax, the production of different countries, imported into Great Britain during the years 1840 and 1847, inclusive:

1840.	lbs.	1847.	lbs.
Russia,	88,780,902		75,479,000
Prussia,	13,850,000		14,468,000
British E. Indies,	——		183,600
Holland,	11,536,000		6,507,000
Austria and Italy	76,082		774,588
Egypt,	1,224		4,850,000
United States,	——		5,500,210
Belgium,	8,456,000		3,518,000
Hanse Towns	826,000		3,518,000
France,	4,416,000		528,000
Denmark,	110,000		——
China,	——		111,184

Table showing the amount of hemp, the production of different countries, imported into Great Britain during the years 1840 and 1847:

1840.	lbs.	1847.	lbs.
Russia,	61,080,000		55,000,000
Prussia,	——		——
British E. Indies,	5,669,000		18,950,000
Holland,	——		——
Austria and Italy,	675,400		3,285,208
Egypt,	——		——
United States,	——		127,806
Belgium,	42,000		——
Hanse Towns	——		——
France,	——		——
Denmark,	——		1,788,000
Phillippine Isl'ds,	1,573,900		202,698
China,	224,000		——

It appears that the average annual importation of foreign flax has been as follows:—

From 1820 to 1830,	72,000,000 lbs.
1830 to 1840,	109,000,000 lbs.
1840 to 1850,	139,000,000 lbs.

In eddition to the above quantities consumed in manufacturing operations, must be added the amount of flax and hemp grown at home, an amount by no means inconsiderable.

The proportionate percentage of the foreign importations may also be shown by the following table, calculated on the average imports of the years 1840 and 1849:

Russia	1840,	69	1849,	74
Prussia,	"	11	"	10
Holland,	"	9	"	6·5
Belgium,	"	6·5	"	4
France,	"	3·5	"	1·5
Other countries,	"	1	"	4·5

Besides the large amount of flax and hemp yearly drawn from foreign countries by England, to supply her manufacturers, she requires annually a supply of 650,000 quarters of linseed, to be used as seed, or for crushing purposes. This requires an outlay of about $6,000,000, which goes principally to Russia and the northern ports. Oil cake, the residuum of the pressed seed, so valuable as a feeding substance for cattle, is also imported into England in large quantities, the annnal average being about 75,000 tuns, valued at $2,500,000.

From returns recently published respecting the English linen trade, the following curious statistics respecting the consumption of linen in different countries appears. It has been ascertained that 39,000,000 of persons in America cansume annually more than 2 yards of her linen per head—equal to 1s. 6⅜d. sterling; in Canada, the proportion is 1s. 6½d.. or nearly 20 per cent. more than in the United States; while 228,000,000 in Europe take but 1-38th part of a yard per head. This remarkable difference does not arise so much from the consumption being proportionally less in the countries of the Old World, as from the comparatively high duties which most of them maintain on the import of linen goods, and from the small disposition to use them in Asia and Africa, where cotton fabrics are almost exclusively used.

Before concluding our notice of the flax industry of Great Britain, a brief notice should be given to the manufacture of lace, which yearly requires an immense supply of linen thread. In Ireland this business, although dating its origin but few years back, is so extensive as to employ women to the number of a quarter of a million, and in England, in the town of Nottingham alone, the great center of the business of lace-making, 143,000 persons —men, women, and children,—find employment at this work. The greater portion of the work is done by machinery, and the products, in imitation of the Valenciennes and Mechlin, are fast rivaling the real article. The invention of machines for the making of lace was a work of years and of many trials and improvements. The stocking frame formed the original foundation, which, since the year 1800, has received improvement after improvement until it now stands capable of making laces of beautiful designs and all widths. Every improvement has lessened the cost of manufacture so much that lace that cost 30 shillings per square yard in 1815 can now be purchased for 3d. It is sent to every quarter of the world, and even smuggled into France—that country prohibiting the sale of all English laces and embroidery.

Recent Foreign Inventions.

Tempering and Grinding Steel, etc.—Mr. Chesterman, of Sheffield, England, has lately invented and patented several valuable improvements in hardening and tempering steel, and in grinding, glazing, buffing, and brushing steel and other metallic articles. The process of hardening and tempering apply principally to thin steel, such as is used for saw-blades, for example. The hardening is effected in the following manner:—The inventor takes a strip, say from ten to thirty feet long, and winds it into a circular cast-iron case of about the same depth as the width of the steel. In the side of the case is a grate or aperture, through which a small portion of the outer coil of the steel is made to protrude. He then puts a cast metal lid on the top of the case, so as to cover the whole of the steel, and places the case in a furnace, and allows it to get red-hot, when it is removed by one workman, while another seizes hold of the protruding end of the steel, and draws it through a pair of cold steel, metal, or stone dies or plates, by which the steel will be hardened, coming out flat.—The dies or plates are to be kept cold by having cold water applied to them, or they may be made hollow, and a stream of water be caused to flow through them. Shorter and stronger lengths, such as steel saw-blades, &c. are hardened by placing them in a furnace and allowing them to get red-hot, and then quickly introducing them and subjecting them to pressure between two dies or plates, mounted in a frame so as to form a press, by which means they are both hardened and prevented from warping or buckling—care being again taken to keep the dies or plates, whether of metal or stone, cold by the application of water. He tempers these articles in the ordinary manner, and the tapes or strips as follows:—After the strip or length of steel has passed through the dies or plates, it is removed to a stretching-table, where one end is made fast between screw-clamps or otherwise, while the other end is clipped between another pair of screw-clamps attached to a leather strap, which is fastened to a drum or roller turning in bearings, and furnished with a lever or arm, which is weighted so as to produce a gentle strain on the steel. The steel is then oiled or greased, and heat is applied to it from a portable furnace or gas-light attached to a flexible tube, or from any other source, so as to blaze off the oil or grease, whereby a fine spring temper will be imparted to the article operated on, and it will be left flat and straight. Or a fixed gas-furnace is employed, and the steel drawn from the hardening dies or plates direct through the gas-furnace, thus becoming hardened and tempered at one continuous operation.

For the purpose of grinding both sides of a flat article, or the entire periphery of a circular or similarly-shaped article, the inventor fixes upon a central tube or axis a grindstone in the form of a roller or cylinder, and makes this stone plain or indented with semi-circular or other grooves, according to the shape of the article to be ground; and over this grindstone roller he mounts another similar to it.—Upon rotary motion being imparted to the rollers, and the end of the article to be ground being inserted between them, they will draw it through, but without grinding it; the article is then to be drawn or pushed by the workman in a contrary direction to the rotation of the rollers, and the grinding will then take place in its passage between them. The sides of one of the rollers, when the articles to be ground are flat, are also provided with collars formed of grindstone, and of a larger diameter than that of the rollers, whereby the edges, as well as the sides of the metal article, may be ground, when requisite, at the same operation. Means are provided for adjusting these rollers to suit the thickness of the articles to be ground, and also for adjusting the stones on the central tube or axis. For the purpose of grinding one side only of a steel or metal article at a time, a plain wooden roller is substituted for one of the grindstone rollers; and combined with this arrangement are guide-rollers for cross grinding.

These improvements in grinding will be found of especial advantage in the case of saw-grinders, who, as a body, are subject to severe diseases of the chest and lungs, called the "Grinder's Complaint," caused by their standing or sitting over the stone. To such an extent is this complaint prevalent, that it is no uncommon thing for persons thus employed to become incapacitated from following their occupation at a comparatively early age. By the present improvements this evil will be in a great measure obviated, as the men will be enabled to grind articles at a considerable distance from the stone, and in front of it instead of leaning over it, as is the common practice. Another important consideration is, that in the event of a grindstone flying to pieces—by no means an uncommon occurrence—the men will be much less likely to be injured, or perhaps killed, while standing at a distance from the stone, than if they were over it, as they would be under the ordinary system.

Lithographic Printing.—Andrew McClure, of London, patentee.—This invention consists of a damping apparatus composed of a roller sponge and water trough combined with the inking rollers, in an inking trough. After every impression in a lithographic press, the stone has to be damped with a sponge and then inked, before a new impression can be given. This is usually done by hand, and the above plan is to substitute machine for hand labor. To effect these two operations, it is our opinion that a wider field is at present open for improvements in lithographic than any other kind of printing.

Power Loom Improvements.—Peter Hindle, of Ramsbottom, Lancashire, England, patentee.—This improvement consists of a double interrupted or variable take-up motion, that is having a slow and quick take-up motion, at any required intervals of space, the effect of which is to produce thick and thin transverse strips of cloth alternately, by the operation of a single shuttle, and of one and the same quality of weft thread throughout. This is a very simple method of producing a variable kind of fabric in power looms.—[London Mech. Mag.

Savannah Water Works.

The following is condensed from the Savannah "Republican:"

The Works for supplying the city with water were not turned over to the Public Authorities last week, as was expected. It was found that it would require a longer time to put all the engines in operation, and test the quality and capability of the machinery. Accordingly, Mr. Craven, consulting engineer for the city, and Mr. Worthington, the constructor of the machinery and one of the contractors, have returned to New York, leaving the Works, for the present, under the care of Mr. F. W. Jenkins, temporary chief engineer, and an assistant of Mr. Worthington. As soon as Mr. Jenkins shall have put the other two engines in operation, and got everything in train for the engineer and officers who are to succeed him, the Works will be delivered over to the City Authorities. In the meantime, one of the pumping engines will be at work, and will keep the city supplied with water.

The water, taken from the river at the most favorable time of tide, is received into four capacious basins, each capable of holding from three to four days supply. This allows ample time for the subsidence of sediment, and as has been proved under unusually unfavorable circumstances, leaves the water in a condition of equal clearness and purity with that found in Philadelphia, and other places where the supply is taken from a river. By an admirable arrangement of stop gates, any one of these basins can be at any time drawn off and the sedimentary deposit thoroughly washed out.

The high service reservoir in Franklin Square is a tower of the most massive and durable character, supporting an iron tank with a capacity adequate to the supply of about 8 gallons to each inhabitant, and of an elevation sufficient to afford an efficient pressure to all parts of the city.

No less than three pumping engines are provided, disconnected from each other, either one of which is capable of furnishing at least twice the requisite quantity of water. The boilers also, being entirely independent, and the two large forcing mains running separately to the reservoir, it is fairly claimed that no city can boast of such immunity from the troubles likely to follow an interruption of the supply.

For simplicity and beauty, the engines speak well for themselves, and on the score of economy, the engineers are collecting statistics, which, when made public, will, it is asserted, compare favorably with those of any pumping engine of which we have accounts.

To the associate contractors and engineers, Messrs. Morse & Worthington, belongs the credit of a system of Water Works for which there is no precedent. The attention of the latter named gentlemen having been exclusively directed to the construction of the engines which bear his name as patentee, the citizens are indebted to Mr. Morse for the beautiful structures belonging to the Works, as also for the entire plan and arrangement of the receiving and distributing reservoirs.

[The pumping engines spoken of are simply what is generally known as "Worthington and Baker's Steam Pump," which has been illustrated in the Sci. Am. This is the first time that such pumps have been used on such a grand scale as that for which they are employed in Savannah, namely, supplying a city with water. As the pumps made for this purpose are of a very large size, we hope they will prove to be very economical; this, however, can only be determined by a good deal of experience.

Expansion from Heat.

We noticed on Tuesday, says the Newberry, S. C., "Sentinel," that the rails on the Greenville and Columbia railroad had expanded very much from the excessive heat. The vacant spaces between them were closed up, and the rail drawn up in the form of an arch, five inches at the highest point from the stringer, at the same time drawing out two spikes. The rails were so hot that it was like handling hot coals to touch them. We noticed two other rails slightly arched.

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Scientific Memoranda.

STAINING HORN FOR COMBS, &C., BLACK.—The following is from the "Polytechnic Journal," (Paris) by Prof. R. Wagner:—Comb-makers are in the habit of staining the lighter colored and spotted combs black, in order to make them resemble those made from the buffalo horn. Hitherto a sort of magma, composed of milk of lime, washing soda, and red lead, has been used for this purpose. When the whole mass of the comb is to be dyed it is laid in this mixture; but when it is to be merely spotted black in imitation of tortoise-shell, it is rubbed upon tbe parts to be stained. After removal from the dyeing liquor, they are washed with water, to which a little vinegar is sometimes added, dried, and then polished. By this treatment the combs assume a fine black color. This process is founded upon the decomposition of a small portion of the horn substance, and the formation of sulphurets of sodium, with part of the sulphur which exists in combination with the organic matter of the horn. This sulphuret of sodium is decomposed as fast as formed by a portion of the oxyd of lead dissolved by the lime water, or by the soda, and black sulphuret of lead is formed, which stains the comb. This process gives, in general, very satisfactory results, and recommends itself by its great cheapness. It is, however, attended with two great disadvantages, one of which is, that the action of the lime upon the comb causes it to warp, especially the teeth; the other and more important is, that if the combs are kept in a damp place, especially if shipped on board vessels, the sulphuret of lead gradually oxydizes, and produces sulphate of lead, which gives rise to white spots or stains, and destroys the appearance of the article. In order to remedy these defects, Professer Wagner proposes to use a salt of mercury. But as oxyd of mercury does not appear to combine with lime, it cannot be used in the same way as oxyd of lead. The process he recommends is to dissolve 4 oz. of mercury in 4 oz. of concentrated nitric acid, and to dilute the mixture with 16 oz. of water; in this solution the combs are to be steeped for a night. The solution is then to be poured off, the combs washed with a little water, which may be added to the solution poured off, and then repeatedly washed with fresh water, until it ceases to re-act with acid. By this treatment the combs assume a reddish tint, or a fine brown, if the mercurial solution be used in a concentrated state, and might therefore be employed directly to produce imitation tortoise-shell. The combs thus stained red are to be introduced into a solution composed of ½ oz. of sulphuret of potassium (of the apothecaries) in 2 lbs. of water, and allowed to remain in it from one to two hours. The blackened combs are first washed with water, then with water to which a little vinegar has been added, and finally with pure water, and polished. Although the staining thus produced is exceedingly perfect and durable, it does not penetrate very deeply, and care must therefore be taken in the polishing. From the exceedingly small quantity of the solution of nitrate of mercury which suffices to stain the red horn, it does not cost more to use it than the mixture of lime, soda, aud lead.

MAKING HORN A RED COLOR.—The following is from the "Polytechnisches Centralblatt," by Prof. A. Lindner, (German):—The process employed in France to stain horn in imitation of tortoise-shell, by which a fiery red color is produced, which is exceedingly agreeable by transmitted light, is quite different from the old method with lime, soda, and red lead. The horn is first prepared by soaking in dilute nitric acid, consisting of one part of acid and three of water, at a temperature of from 88° to 100° Fahr. It is then treated with a mixture consisting of 1 part of fresh burnt lime, 2 parts of carbonate of soda, and 1 part of white lead, for not more than from 10 to 15 minutes, in order that the spots should only assume a yellowish brown tint and not a dark brown. The pieces of horn are now washed with water, and wiped from adhering moisture with a cloth, and introduced into a cold bath consisting of a decoction of Brazil wood, marking 10° of Baume's hydrometer, and one part of caustic soda, marked 20°. As soon as the color is properly developed it is to be removed and washed with water, and carefully pressed between cloths, and laid aside from 12 to 16 hours, and then polished. The decoction of dyewood may be made by boiling 1 pound of the Brazil wood in two to three quarts of water, and the caustic soda may be obtained from any soap-boiler, or it may be produced by heating a solution of carbonate of soda to the boiling point, and adding slacked lime in powder, until a drop of the liquid, on being filtered, does not effervesce, and setting it aside carefully covered until the sediment has deposited. If a little oxyd of zinc be added to the white lead employed as a mordant, blueish-red shades will be obtained, while salts of tin give fine scarlet tints. Archil may be used instead of the dye-woods, and still finer tints may be produced with cochineal. The characteristic feature of this process is the use of the caustic soda in the dye-bath; and this fact accounts for Prof. Wagner not having been able to succeed in staining horn with any vegetable or animal dyeing material.

The Constitution of Nature—A Sublime Conclusion.

Chemists usually suppose that all the various forms of matter are reducible to fifty-three or four elementary and homogeneous substances, and all bodies, hitherto analyzed have been found to consist of two or more of these elements.

But recent experiments would lead us to conclude that those substances, until now deemed simple and elementary—as iron, gold, sulphur, iodine, potassium, and the like, are in fact made up of four component parts, which the genius of man has not yet been able to dissever.

The celebrated Braconnet has raised plants by means of distilled water (i. e. hydrogen and oxygen) alone.

These vegetables throve, and passed through all the usual gradations of growth to perfect maturity. He then proceeded to gather and examine their entire produce—the roots, stems, leaves, pods, and fruit. These were all accurately weighed, and then submitted to distillation, and other means employed for close inspection and analysis.

He thus succeeded in obtaining from these vegetables all the materials peculiar to each individual species, precisely in the same manner as if it had been cultivated in its own natural soil: viz., the various earths, the alkalies, acids, metals, carbon, sulphur, phosphorus, nitrogen, hydrogen, and the like bodies, which have hitherto received the name of "elements."

The result is wonderful, and it brings us to the conclusion which he has given in these remarkable words:

"Oxygen, hydrogen, and nitrogen, with the assistance of the solar light, appear to be the only elementary substances employed in the constitution of the whole universe, and Nature, in her simple progress, works the most infinitely diversified effects by the slightest modification of the means which she employs."—[Worcester Transcript.

[Where did our cotemporary get the above piece of scientific information? First it says, that Braconnet raised plants "by hydrogen and oxygen alone," and then in the last sentence we are told that "oxygen, hydrogen, and nitrogen," appear to be the only elementary substances required for raising plants. Here we are first told that two elementary substances alone are necessary to raise plants, and again we are told that three elementary substances are necessary. This method of reasoning may be very easy, but it is very incorrect. The reduction of all the elementary substances into one or two—a branch of the old alchemists' rigmarole of turning iron and other substances into gold—has long been a hobby with some people, but the number of elementary substances are continually on the increase. From the above, we should judge that the plants spoken of were grown in the air, which contains carbonic acid, and oftentimes metals, and many of the elementary substances in a state of gas.

Viviparous Fish.

This species of fish, which bring forth their young without depositing eggs, were considered remarkable natural wonders one year ago, but they are now, it seems, becoming some what numerous in various quarters. The first were discovered on the coast of California about a year ago. One species has since been said to have been taken in the Canadian waters, and a United States officer avers that the sting-ray of the Carolina coast is viviparous.—Professor F. S. Holmes substantiates this, and says that the Devil Fish also bears its young alive. A singular discovery connected with this subject is thus described by the Charleston "Mercury:"

"A discovery of very great interest has recently been made by Mr. Henry W. Ravenel, a young naturalist, who has lately won an honored name in the department of botany.—In a limestone spring, in St. John's, Berkely, he has discovered a species of viviparous scale fish—the first that has been authenticated as existing in fresh water. His specimens are now in possession of Prof. Holmes, from whom we may expect before long a scientific description of this very interesting species. The largest of these specimens may be 1½ inches long, and it is as delicate as the silver fish. At the season of breeding the breast becomes greatly extended, and on opening it, there is found adhering near to the spine, a sack full of embryo fishes, which exhibit unmistakable proofs of the development of animal form and life."

To Render Wood Incombustible.

A very excellent way to render wood incombustible, is to soak it in a strong solution of alum and the sulphate of copper. About one pound of alum and one of the sulphate of copper should be sufficient for 100 gallons of water. These substances are dissolved in a small quantity of hot water, then mixed with the water in the vessel in which the wood is to be steeped. The timber to be rendered fire-proof can be kept under the liquor by stones, or any other mode of sinking it. All that is required is a water tight vessel, of sufficient dimensions to hold enough of liquor to cover the timber, which should be allowed to steep for about four or five days. After this, it is taken out, and suffered to dry thoroughly before being used. Various substances have been prepared for this purpose, but in answer to a correspondent we present the above as being equal to any that we are acquainted with.

Steam Fire Engines.

A short time since a communication appeared in the Philadelphia "Courier," in which it was stated, that "Cincinnati had two steam fire-engines—the *first* ever built." C. F. Hall corrects this statement in the "Gazette," and says:—"Proud as we Cincinnatians are of our steam fire engines, far be it from us to usurp laurels that belong to others.

In 1832, twenty-two years ago, several steam fire-engines were built by Messrs. Braithwaite & Co., London, who have the merit of having first manufactured these engines. A Prussian paper of 1832, (Dec. 2d,) gave the following account of one of them.

'This steam fire-engine, which can be drawn by two horses, and in consequence of the peculiar construction of the steam boiler, can be brought into action in the course of thirteen (13) minutes. Its effects are extraordinar,y and its utility has been exemplified at several large fires in London, among which may be mentioned the Argyll rooms, in Regent street, the English opera house, Strand, and lastly the celebrated brewery of Messrs. Barclay, Perkins, & Co.'"

Of the Cincinnati steam fire-engines however, he asserts, they are "the best known since the Deluge," and gives great praise to their inventors, Abel Shawk and A. B. Latta. He also mentions the steam fire-engine by Captain Ericsson, of this city, which is illustrated in "Ewbank's Hydraulics."

Cheap Substitute for Coffee.

Liebig (the illustrious German chemist) says that asparagus contains, in common with tea and coffee, a principle which he calls "taurine," and which he considers essential to the health of those who do not take strong exercise. Taking the hint from Baron Liebig, a writer in the London Gardener's Chronicle was led to test asparagus as a substitute for coffee. He says: "The young shoots I first prepared were not agreeable, having an alkaline taste. I then tried the ripe seeds, and these, roasted and ground, make a full flavored coffee, not easily distinguished from fine Mocha. The seeds are easily freed from the berries by drying them in a cool oven, and then rubbing them on a sieve." In good soils, asparagus yields seeds abundantly; and if they are charged with "taurine," and identical with seeds of the coffee plant, asparagus coffee may be grown in the United States at less than half the cost per pound of the article now so largely imported.

An Inventor Injured by His Own Invention.

The Paris correspondent of the New York "Times," says:

"An inventor, who considered himself on the point of final success, has just fallen a victim to his own machine. This was a steam vehicle, running upon the ordinary post roads of France. M. Leroy was traveling in it towards the English Channel, where he was to ship it to London for exhibition. While descending the hill, the engine struck an obstacle, tipped over, and poured the contents of the boiler on to M. Leroy, who was too badly scalded to hope for recovery. He had spent ten years and all his money in perfecting his invention."

[He was a very foolish inventor to throw away his money on such an invention. To reproduce steam carriages for common roads, after the invention of railroads and locomotives, is like going to mill with corn in a bag, having a stone in one end to balance the grain in the other.

The Calcium Light.

Professor Grant, of New York, who has been experimenting in the Calcium Light, for light-houses, says the difficulties which induced Allan Stephenson, engineer of the Northern Board of English Lighthouses, to pronounce the desired introduction of the oxhydrogen light "impracticable in the present state of our knowledge," have been overcome by Mr. Grant.—The lime point which he uses will burn twenty-four hours without disintegrating. He has a full-sized apparatus at the observatory, near the Crystal Palace, where he produces a flash of such intensity that the shadow projected by it eleven miles distant is equal to that of the moon in the first quarter. To make a light of this intensity costs not half the sum required for a first-class Fresnel light.

[The above, we have seen in quite a number of our exchanges. We do not believe oxygen and hydrogen burned on a piece of lime which constitutes this light—can be furnished for twice the sum of good oil used with a first class Fresnel light. This calcium, or lime, or Drummond light, all of which names it has been called, is dear and troublesome. There can be no doubt of its great brilliancy, but the expense of supplying the gases for it, is too great for common uses.

Raising Canary Seed.

A writer in the Ohio "Farmer" strongly recommends the farming people to raise canary seed, which is said to be an operation attended with no more trouble than the culture of oats. Now that mother and Ann Eliza keep a canary bird or two, what is the use of paying ten cents a pound for seed, when it can be raised from a man's own ground, and be found, (as is said) an excellent food for horses. The head is large and heavy, resembling millet. Our writing friend says he has raised two crops of this seed in a single season—saving the first for seed, and getting a second crop on the same ground. Who is the enterprising farmer that will furnish an item next year by becoming the pioneer in the matter of raising *canary grain* for market?

Clark Mills has received an order for an equestrian statue of General Jackson, to be placed in Jackson-square, New Orleans. Mr. Mills is to receive for the statue the munificent sum of $38,000.

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New Inventions.

New Amalgamator.

Among the many attempts to facilitate mining operations, which the Californian discoveries have prompted, there is one by Perry G. Gardiner, of this city, for which he asks a patent under the designation of "new and useful machinery for washing and amalgamating gold and other metals." Mr. Gardiner thinks he has added facilities to these operations with contrivances which he calls "rotary scourers." These are made to rotate, the one above the other, in scouring vessels, so as to bring pulverized quartz, or other forms of crushed ore in more minute contact with mercury placed in a "well" at the bottom of each vessel, than is attainable by other arrangements, as the inventor believes. The gain aimed at in this *series* of scourers, is such a gradual washing of the auriferous mass as shall control the too rapid escape of the earthy particles, and the water, whereby the lighter, because more minute, particles of gold would be lost, usually. As the wetted mass is carried from vessel to vessel, the quicksilver in each "well" catches a portion of the still remaining wet powder, until every appreciable atom is brought into chemical affinity, and thus secured.

Cotton Cleaner.

J. B. Mell, of Riceboro,' Ga., has made an application for a patent setting forth the advantages of a machine for cleaning cotton, in which there seems to be the promise of usefulness to the great cotton interest of the country. It consists in an ingenious relative and combined action of brushes and teeth with which rollers are armed. By the operation of these the pure cotton is rapidly taken from the mass of the feed, leaving the seed as well as the dirt behind. The card or teeth, and brush rollers, revolve in opposite directions, so that as the former raises the cleansed cotton, the latter sweeps it off, and it passes down the "discharge," and out of the box, without interruption. Thus, Mr. Mell assures those interested, his machine can be made to perfectly clean every kind of cotton that may be grown.

Improved Door Key.

William Damarel, of Brooklyn, N. Y., has obtained a patent for an extension door key upon a plan which suggests a degree of security to bedrooms. or other apartments when locked from within, of great importance, especially to the keepers of hotels, lodging houses, &c., but for which "outsiders," whether burglars or others, and fellow-lodgers whose organs of locality are too deficient to keep them from entering other people's rooms, "by mistake," will not be apt to thank him. The principle consists in giving the capacity of extension to the inside action alone, so that a readjustment of the key, by some person within is rendered an indispensable preliminary to the springing of the bolt, from the outside, by a skeleton or even a duplicate key.

Protection of Railway Embankments.

John Hinde, of Schenectady, N. Y., suggests a means by which to protect the surface grading and the embankments ot railroads. This he proposes to do by simply covering the surfaces with a coating of coal tar, which may be combined or not with sand, dust, gravel, powdered plaster, paint stuffs, or other substances of a similar nature. In this way he also proposes to protect railroad ties and other parts of the track, which it is desirable to shield from the weather or those accumulations of adhesive dust to which so many of our railways are subjected.

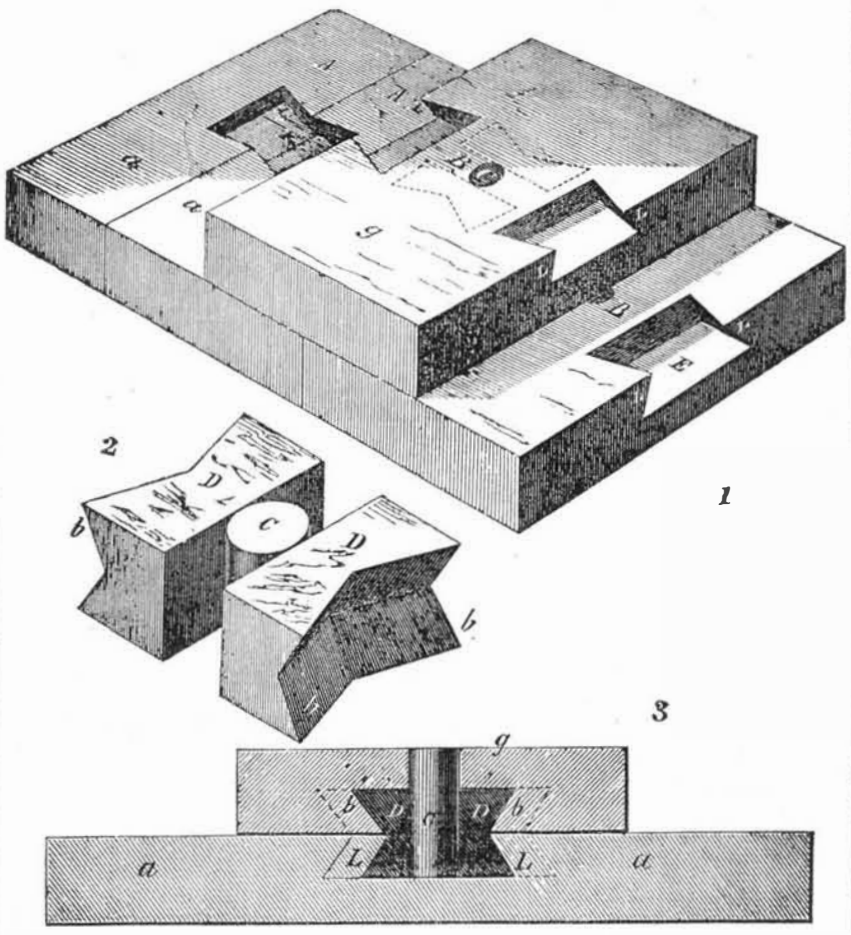
Pavement Foundations.

The principal difficulty encountered in paving, where the costliness of the material and labor makes it important to secure durability, is the procurement of a proper foundation. This may be seen illustrated by the frequent depressions in some of the most costly and carefully laid flagstones in cities. J. B. Wickersham, of this city, has applied for a patent for an improvement in the foundation of pavements, whereby he assures the interested that this difficulty can be obviated. His plan consists in first laying a bed of gravel or broken stone, on which a framework of interlaced iron is placed. The paving blocks, when placed upon the iron, are said to not only. distribute their weight equally in all directions, but to extend the distributed weight over areas greater than their own, and thus to prevent any one block from sinking and dragging down the rest, which is a very excellent feature.

New Mortising Machine.

Edward Kyle, of Newville, Pa., is the inventor of an improvement in mortising machines, which he has taken the usual steps to patent. It combines a vibrating cutter stock, bed-piece, clamps, &c., and proposes to entirely obviate, with an improved chisel, the choking from the mortise chips, which are made to pass upwards through the slot, without the interruption and consequent annoyance and loss of time otherwise encountered.

LOCKING STONES IN FOUNDATIONS OF LIGHTHOUSES.



We herewith present an illustrated description of an improvement for locking stones for the foundations of such structures as lighthouses, bridges, &c., for which a patent was granted to John P. Avery, on the 25th of last April (1854.)

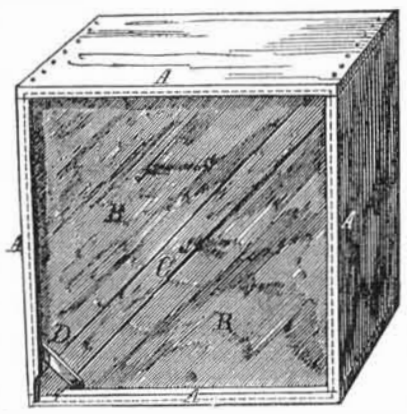
Figure 1 is a perspective view of this system of locking stones, showing one stone placed upon two others, and the whole locked together—the dotted lines showing the form of the dovetails. Fig. 2 is a perspective view showing the dovetails or locks, and the manner in which they are forced apart, when it is desired to lock the stones together, and fig. 3 i sa vertical section showing three stones locked together—two below and one above. The same letters refer to like parts.

a a a represent the bottom stones of a foundation, for instance, in which dovetail slots, E E E, of a suitable depth are cut, or half that of the dovtails; the said slots being open on the sides which are placed opposite each other, and made wider at their bottom than at their top, thereby forming an inclined projecting lip, L, under which the flanges, *b b*, of the dovetails, D D, fit snugly when the key, G, is driven between the dovetails. In figs. 1 and 3 a stone, *g*, is represented placed on top of the foundation stones, *a a*, and the whole secured together; this stone has a slot, E, similar to those in A A, cut in its bottom surface, and of the same depth, as half the hight of the dovetails. Thus it will be seen that when these stones are put together, the dovetails will hold equally on each as they fit the same depth in one as in the other. After these dovetails have been placed in the bottom slots, the top stone is placed over them and caused to fit in its slot, E. After this is done, the key, *c*, or its equivalent, which passes through the hole, B, in the top stone is driven between them, and they are forced apart, which causes their flanges to fit snugly and securely under the inclined projecting lip, L L. By this arrangement of the double wedge flanged dovetails, constructed as described, and uniting the two adjoining stones in the lower course with the stone which breaks joint with them in the upper course, the stones in the two courses are firmly and expeditiously fitted together, the specified flange-form of the dovetails, when the key is driven home, serving most effectually to draw the stones in the two courses together, face to face, thus making tight the horizontal joint between the courses, and simultaneously making tight the vertical or end joint, as specified, so that the two courses are made expeditiously to become one solid mass, as it were, the flanged dovetails acting as clamps to keep the two courses together.

The Judges on Building Materials, at the Seventh Exhibition of the Mass. C. M. A., in the city of Boston, Sept., 1853, reported as follows: "The Committee consider this a valuable improvement for the construction of sea walls and lighthouses, and award a Bronze Medal."

More information may be obtained by letter addressed to John P. Avery, Norwich, Conn.

New Lid for Packing Boxes.



The annexed figure is a view of an improvement in the construction and fastening of lids of packing boxss, &c., and the same plan may also be applied to barrels. A is a box, represented with a croze around its interior sides near the top, for the reception of the two angular parts, B B, which forms the lid. A bar, C, fits over the seam of these two angle pieces and holds them down as shown, while the small turn button, D, fixed on a pivot pin, is turned round, and one end pushed into the groove, holding all secure. This is a neat, cheap, and convenient way of fastening packing boxes, barrels, &c., especially those which have to be inspected, such as flour, sugar, tobacco, &c. The contents can be inspected, and the head removed without removing a hoop, or drawing a nail. A model can be seen at this office. The inventor is Charles Williams, Warren, Va. He will be at 71 Courtlandt St. this city, for a month, to make arrangements with parties respecting his improvement.

Lubricating Oil.

F. S. Pease, 61 Main street, Buffalo, N. Y., has sent us for trial a specimen of oil, which we have very thoroughly tested upon the press on which the "Scientific American" is printed, and we think it is an excellent article for lubricating any kind of machinery. It is certainly superior to any thing which we have ever tried for the purpose. It is also recommended as a good article for purposes of illumination, and if sold cheap enough we should suppose it might become generally used.

Improvement in Parallel Motion.

John M. Thompson, of Taunton, Mass., has been endeavoring to render some service to the operators of beam engines, through an improvement in parallel motion, and has taken steps to secure his improvement by patent. He proposes to obtain the desired parallel motion by connecting a piston link to one end of a radius rod, whose other end is attached to a crank, which works on a rock shaft placed under the center of the beam, and receives its motion from it by means of proper gearing This belongs to an important class of inventions.

Security of Axe Helves.

An improvement in the mode of securing axes to their helves is jointly claimed by H. N. and J. C. Bills, of Windham, Ct. They insist on the impossibility of any axe, to which their plan is applied, ever flying off the handle, because the eye must break before a separation can take place. The contrivance is simple, and the object is merciful as well as useful. The claimants have applied for a patent.

Music Printing Press.

The printing of pieces of music from plates has hitherto been performed like all copperplate printing, by hand. That is, the ink is first rubbed on the plate by a roller, then wiped off by a cloth, so as to remove all the ink from the surface, and leaving only the cavities of the plate filled up. James F. Starrett, of 31 Hudson Place, 34th street, this city, has invented a press for printing music by power. The plate is wiped by a revolving cloth, and the bed for carrying it round under the impressing cylinder, although secured to a central rotary shaft is so arranged as to carry the plate in a straight line, while the impression is being made. The receiving table has a peculiar motion, it rises and falls with the weight of the copies received, and vibrates so as to receive the title page copies at one side, then comes round and receives the printed music on the other side. The press is very ingeniously constructed, and calculated to save an immense amount of labor.

Ship Building in New York.

There has been launched at the port of New York, since January 1st, 44 steamers, 32 ships, 9 barks, 6 brigs, 14 schooners, 1 sloop and 1 barge, total capacity, 86,031 tuns. The number of vessels to be launched at that port this year is calculated to exceed that of 1854 by 20,000 tuns.

Pure Milk in Paris.

A most rigid surveilance is kept up in Paris, and in all parts of the country from whence the capital is supplied, over the milk which is forwarded for the consumption of its inhabitants. Thirteen farmers have just been condemned to fines of one hundred francs and under, and one to eight days' imprisonment, for sending milk mixed with water.

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Scientific American.

NEW YORK, JULY 15, 1854.

Are the Stars Inhabited?

It is a positive, and not very creditable fact to many men of scientific ability and reputation, that they devote more time to controversy and speculation on subjects of no practical benefit whatever—and respecting which they never can arrive at any correct conclusions, than to subjects of real utility in which every person has an interest. In no instance has this been so clearly manifested as in the controversies respecting the question embraced in the above caption. A short time since a book by an anonymous author was published in London (since re-published by Gould and Lincoln, of Boston) entitled "the Plurality of Worlds," in which it is assumed that our earth, solitary and alone, of all the starry host, is in all probability, the only planet that is inhabited. The author displays much learning and a fine imagination, but so far as the question is a scientific one, it appears to us that it really makes no matter what the opinion of one or ten thousand men may be, as it can neither be settled by argument nor science, in its present state.—If we possessed telescopes of sufficient power to survey the surface of any of the planets the same as we can that of our own, and whereby we can observe objects of life moving unconstrained at distances far beyond the scope of common vision, then no argument would be required to prove or disprove the question of the planets being inhabited, any more than it requires controversy to prove that a drop of water teems with life, when examining it with a microscope. And since we have not instruments to accomplish this, the best thing for astronomers and opticians to do in the premises, instead of quarrelling upon the subject, is to endeavor to construct such instruments as will settle the question beyond the shadow of a doubt. This advice we tender especially to Sir David Brewster, that eminent philosopher who has just replied to the author of the work in question, in a keen and cutting article in the last number of the "North British Review." The author of "the Plurality of Worlds," concludes that the planet Jupiter is nothing better than a huge, pasty mass of mud and water, on which no inhabitants can dwell. Sir David Brewster considers, that although the gravity of Jupiter in proportion to its size, is no greater than that of an equal volume of water, yet, it may be hollow, and its surface as inhabitable as our own globe. If there are inhabitants in Jupiter, the anonymous author concludes, that according to its mass the men are required to be 1649 lbs. weight each, while according to the reviewer, who take the radius of Jupiter—not its mass—as his line of measurement, they are not required to be over 2¾ times as heavy as the men on our mother earth. This question could be far better determined were we informed of the particular food of Jupiter's sons, and the abundance or scantiness of its supply, whether it was bread and beef, or tea and toast, as we find that these things have a wonderful effect on the gravity of both aldermen and common citizens on our little planet.

Herschel has suggested that the sun may be inhabited, and that between its luminous atmosphere and its surface, there may be interposed a screen of clouds, whereby its inhabitants may no more suffer from intense heat than those who live in our tropical regions. This may be so, as we all know how much the heat of the sun's rays, in the hottest days of summer, are modified by an interposing cloud, or "a swift passing breeze," We also know that on the extensive table lands of high mountains in the tropics, the glacier and ice field reign as supreme as in the arctic regions, and all this although they are nearer the sun than the adjacent burning plains. The depth of the atmosphere, and its pressure upon the surface of the earth, affects its temperature as much as its relative distance from the sun, and thus it is that many simple questions must enter into the calculation, to determine by reasoning, the complex question of the probability of the stars being inhabited. We believe that neither the sun nor the moon is inhabited. The moon has been found to be destitute of any atmosphere, consequently no living thing can dwell there; at least, none possessing the same functions necessary to life, as the oxygen-breathing creatures of the earth. As the sun has not an atmosphere like ours, we also conclude that there are no inhabitants there. These two orbs appear to perform—according to science—no other duties than those described in the first chapter of Genesis, "let the sun and the moon be in the firmament to divide the day and the night, to be for times, and seasons, days and years, and to give light upon the earth."

It is our belief that some of the planets, and thousands of other heavenly bodies in other systems are inhabited, but we can present no scientific proof in favor of this belief being positively correct, neither can any person present proof that it is untrue. All we can say about it, is, that probabilities are in its favor, for we judge, that as our planet teems with life, so may others. It is a reasonable inference, from what we see around us, that other worlds may be furnished as luxuriantly with life and beauty as ours. We cannot believe that our planet is the only theater of life in the universe—that here alone, among all the starry host, the great Creator has deigned to display his manifold power, wisdom, and goodness.—We cannot believe that our sun, and the suns of other starry systems shine for only one single globe, which, among the rest, is but a speck on the starry ocean. To believe otherwise, would lead us to contemplate a Being who had brought into existence a magnificent assemblage of means, without a corresponding design, and who has prepared habitations fit for the enjoyment of rational creatures, but has failed to people them. To such a view we cannot subscribe; all probabilities are favorable to the view of "the stars being inhabited."

The New Patent Bill.

We have already received quite a number of letters from inventors and persons interested in inventions, expressing their opinions and feelings in regard to the new Patent Bill, and our comments thereon, as published in the Sci. Am. of last week. They are unanimous in condemning the objectionable clauses of the bill pointed out by us, and they hope it will not pass in its present shape. But as Congress will perhaps not adjourn until some time next month, the bill may be hurried (as many bills usually are) through both Houses at the end of the session, without due reflection and examination. We hope, however, this will not be so, but inventors who can, without sacrificing their interests, apply at once for patents on new completed inventions, should lose no time in taking advantage of the present low fees, as the prospective ones are so much higher.—We do not advise any person to do this, however, where a hasty application would lead to the sacrifice of any important feature to be claimed.

Although we feel confident that the Bill will not pass in its present form, at the same time, we counsel inventors, mechanics, and all who are interested in patents, in the different cities and towns, to get up remonstrances as soon as possible, against the objectionable features of the Bill, and send them to their respective senators with the utmost dispatch. This is the only proper method of making our Representatives in Congress acquainted directly with the feelings and opinions of their constituents. Petitions can be drawn up from the Bill as published; these should state the objections of the petitioners calmly and clearly, all of which can well be done by intelligent mechanics in every village in our land.

In this age of light, knowledge, and progress, we certainly expect that new laws for the protection of inventors, shall be an improvement upon the old system, this cannot be said for the new Patent Bill; it is an improvement backwards, and is not fit, in its present shape, to become a law for intelligent inventors.

Prompt action is necessary since it is so very difficult to secure any useful legislation from Congress, *and especially so* in favor of inventors interests. The schemes of the scurvy politician have hitherto over-ridden nearly every other interest, and this state of things is growing worse all the time.

Now let us have an improvement or nothing.

Crystal Palace Notes.

Angle Railroad Wheels.—In the Paris correspondence the New York "Daily Times" of the 3d inst., there occurs the following passage:

"One of the most interesting sights in Paris, and one that no American ever thinks of visiting, as he probably never heard of it, is the railroad from the Barrier d'Enfer to Sceaux. It is but seven miles long, and was built as an experiment upon a new system of wheels.—The engine, tender, and hindermost car of the train, are furnished with oblique wheels, under the ordinary upright ones. Where the track is straight, these do not touch the rails; but at the curves, they come into play, rattling along the inner edge of the rails, and preventing the train from running off the track. The road was therefore made purposely tortuous, and the most sudden and seemingly dangerous bends were introduced at frequent intervals.—The two stations are circular, and the train as it receives its passengers, is doubled up into a ring of 50 feet radius. The smallest curve upon the road is 68 feet radius, and over this the train goes at full speed. The corners of the cars are cut off, so that the vehicles, in following the curves, do not infringe upon each other. Sceaux is upon an eminence, which the road ascends spirally, with something like a mile of track—it only going, in advance, a hundred feet. The invention—which, by the way, is ten years old—has proved practically very successful; but it has never been applied to any extent."

Few Americans, no doubt, have heard of the above, just as the said correspondent appears to know nothing of the very same invention in America, and which is to be seen at the south end of the machine arcade, in the Crystal Palace. The exhibitor of the model carriage, with the angle wheels, exactly on the above principle, is I. Dickson, of Carbondale, Pa.—The French railroad on the same principle, has the advantage of being more than a mere model, the track being no less than 7 miles long. We hope that those of our readers who after this may visit Paris, will not forget to profit by the advice of the "Times" correspondent, and not leave that city without seeing the railroad of Sceaux.

Miniature Steam Engine—A very skillfully constructed Lilliputian steam engine has been placed on exhibition in the machine room, on the left side, near the entrance on the east nave. It is a high pressure beam engine, composed of 150 pieces, boiler, stack, &c., all complete, and only weighs 9 drachms, 12 grains. The stroke is 3-16 of an inch, diameter of cylinder 1-16 of an inch, diameter of fly wheel 5-8 of an inch. The cylinder, beam, and cross-head are of gold. This minature working steam engine was constructed by Cyrus Chambers, Jr., of Kennet Square, Chester Co., Pa., a lad 16 years of age. It certainly does great credit to his skill, taste, and patience.

Roofing Slate.—A few years ago all the slate employed for roofing in our country was imported from Wales, but the discovery of excellent slate quarries in Vermont, and other places, have obviated the necessity of sending abroad for such a useful material. In the yard of the Crystal Palace, a number of specimens of American slate are exhibited by two different parties, such as fine blue slates from "Rowland Parry's quarry," by John Brodie, agent, No. 627 Washington St., this city; and blue, green, and red slate by Newell Sturtevant, President of the West Castleton Slate Co. No description of the quarries, or of the districts where these slates have been obtained, accompany the specimens; like too many other articles on exhibition, they are there to look at like merchants' signs in a painter's shop. We have been informed that a number of fine workable slate veins have recently been discovered in various parts of New York State, but we cannot fully vouch for the accuracy of our informant's information. Good slate is very useful for a great many purposes besides roofing for houses, and it affords us no small degree of satisfaction to know that our country possesses an abundant supply of such beautiful specimens as those to which we have alluded.

An Enquiry.—In connection with the subject of slate, we present the following brief letter from one of our correspondents:—

Gentlemen:—I should be glad to learn by letter, from some of your numerous readers, if there are any deposits of slates suitable for the roofing of houses, in any of the Western States, and their exact location. Such additional particulars might be communicated as would be likely to interest an enquirer. In return for this information, I would be able to communicate some facts of great interest to the owners of slate quarries, as well as to the readers of the "Scientific American."

William Lomax,
64 South Front St., Philadelphia.

Rice.—Some fine samples of this cereal are on exhibition in the northern department.—One bunch of last year's crop, with the straw attached, has been forwarded by I. H. Tucker, of Charleston, S. C., and another bunch (the only samples that we have seen in the Palace) by Junius Davis, of Wilmington, N, C. Rice is almost the universal food of man; it forms the principal food of the multitudinous inhabitants of China, Japan, the Indies, and Africa. It is a healthy, pleasant, and nutritious cereal, and capable—in its husk—of being carried without damage, on very long voyages. Its cultivation on low, swampy grounds in our Southern States, is unhealthy, it is stated, but in Hindostan the coarse varieties are cultivated with as little danger to health as wheat or rye. South Carolina is our principal rice growing State, and Georgia, we suppose, is the next.—We have noticed, in one or two of our New Orleans, La., exchanges, that rice has been cultivated in that State for nine years, by A. Babin, of Terrebonne. The kind of rice cultivated is the "gold-seed" variety, and was first brought from S. C. It has produced 70 bushels to the acre, is of a fine hard grain, and of a beautiful pearly appearance.

Rice is not exclusively a native of hot climates. A variety of it grows wild as far north as the 54° lat. in Canada. A small lake (Rice Lake) which has received its name from the wild rice growing in its shallow, muddy waters, brings forth abundant crops annually, without the plow or the hoe of the husbandman being employed in its cultivation. This lake is situated behind the Coburg district of C. W., not far from Lake Ontario. The wild rice crops are claimed by a tribe of Indians living in the vicinity, and they jealously guard their natural rice fields from the intrusion of the white man. It is a very palatable grain, but not so beautiful nor fine as the rice of Carolina.

Death of a Venerable Editor.

Thomas Ritchie, or as he was otherwise styled "Father Ritchie," the oldest newspaper editor among us, died on the 3d inst., at his residence in Washington, D.C. No editor in our country was better known than the venerable man now deceased. He belonged to the Democratic State Rights party, and spoke out his opinion of men and things freely, especially while in Washington, consequently he had many enemies while he was in active life, but all who knew him personally esteemed him for his gentlemanly deportment and rare abilities. He died calmly, in the bosom of his family at the advanced age of 76 years.

Shortest Atlantic Passage on Record.

The American Steamship Baltic arrived at this port from Liverpool, on Saturday morning the 8th inst., at 1 A. M., having made the passage in 9 days and 17 hours real time, 9 1-2 days apparent time. It brought the news of the Russians having evacuated all the Turkish territories. The Turks, unassisted by the allied armies, have defeated the Russians in almost every battle.

We have 25,000 miles of Railway in the Union, and $200,000,000 invested in them.

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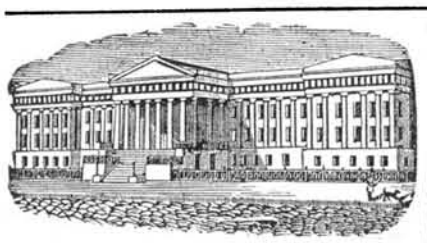

[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING JULY 4, 1854.

POTATO DIGGERS—G. J. Bundy, of Lyndon, Vt.: I am aware that inclined fingers in combination with a scoop, have been heretofore employed in a machine for digging potatoes, and to such fingers a vibratory motion has been imparted, in order to separate and discharge the earth, the earth being made to drop through the spaces between the teeth or fingers, whilst the potatoes are forced up the inclined plane formed by the fingers.

I am also aware that for the purpose of loosening the ground or reducing its surface to a finer state than it was previously, there is nothing new in the employing on a mold-board, a horizontal plate and vertical cutters, extending upward from two to three inches therefrom,

I do not claim such inventions, but I claim the construction of the mold-boards of a potato plow, or the making them with slots or passages standing vertically or nearly so, and having their respective planes parallel to a vertical plane passing through the draught beam of the machine, as stated.

SALT EVAPORATORS—H. G. Bulkley, of Kalamazoo, Mich.: I claim the employment, for boiling salt, or for any evaporating process of a similar nature, of a series of pans, arranged in communication with each other, and heated by a pipe or flue passing through them in succession, as described, so as to heat the brine, or other solution, and cause the deposit of the impurities previously to its entering the pan in which the crystallization or final boiling takes place.

SCREW WRENCHES—A. G. Coes, of Worcester, Mass.: I claim the arrangement of the elevating screw, made as a right-hand screw, of the tube, on the external surface of the tube, and so as to extend below the milled head, and the screw, in combination with the arrangement of the screw (made as a left-hand screw) within a socket tube on the handle, as specified,

BENDING FELLIES—Thos. Cox, of Lancaster, Pa.: I claim, first, the combination of the vibrating felly mold with the flanged bending wheel, arranged and operating as described.

I also claim the manner of perfectly bending the last end of each felly and securing it when completely bent upon the mold, viz., by the combined action of the bending wheel and of the wedge clamp, constructed and operating as set forth.

OPERATING SAW MILL CARRIAGES—A. S. T. Copeland, of Pittsburgh, Pa: I claim the combination of the triangularly working shaft, the mechanism for shifting it into and out of gear, with the right and left-handed endless screws, as shown and described,

CREASING AND BEVELING BARRELS—A. H. Crozier, of Oswego, N. Y.: I claim the movable platform and movable cutters, arranged as described, so that the cutters may be moved from the barrel, and free from the crease when the platform and barrel descend and move towards the barrel, when the platform and barrel are raised.

SOFAS, CRIB BEDSTEADS, &C.—Thos. W. Currier, of Lawrence, Mass.: I do not claim the attachment of movable rockers to chairs or sofas: but I claim the combined arrangement of the cam wheels, and the rockers carried by the cam wheels, whereby by rotating the cam wheels the chair or sofa can be raised or lowered at pleasure, and also the rockers brought into play when desired.

PREPARATION OF COLLODION FOR PHOTOGRAPHIC PICTURES—James A. Cutting, of Boston, Mass.: I claim the use of camphor, in combination with iodized collodion, as set forth.

FINISHING PALM LEAF HATS—Dexter Dennis, of Barre, Mass. Ante-dated Jan. 4, 1854: I claim the improved mode of stiffening and finishing a hat, viz., the covering the outer surface of the hat holder with the stiffening composition and applying the hat thereon, and subjecting it to the action of the heating flats, as specified.

I also claim the combination of the round corner flat, with the crown and side flats, so as to operate in connection with them, as specified.

I also claim the improvement of using a hat holder, elliptical or oval, in its horizontal section, in combination with applying to the side flat a spring bar or contrivances that will allow it to spring or move, while the hat holder is revolved, and adapts itself to such hat holder, as specified.

I claim, in combination with the top or crown flat and the elevating and depressing machinery thereof, a fan apparatus to regulate its downward descent on the hat, as specified.

And in combination with the frame and the crown flat, I claim the toggle and levers, and the projection, the springs and connecting cords, as described, the whole being to enable the frame and the top or crown flat to be operated as specified.

VALVE FOR WIND MUSICAL INSTRUMENTS—C. H. Eisenbrandt, of Baltimore, Md.: I claim arranging the rotating valve on a pivot axis, the extremities thereof pointed or arranged so as to work in the ends of an adjusting screw passing through an elbow support attached to the cap of the air chamber, and the end working in a tightening screw rest; the said valve axis attached to a rotating double-jointed lever device, combined with the finger plate. The said pivot axis rotating valve device being used in combination with a common sewing needle spring, or its equivalent, passing through the yoke or lever rest, the end or point of the spring resting on the upper side of a projection or spur. The whole claimed as described, and used as a combination whereby a perfect trill or shake can be produced, and the same modulated so as to readily afford the crescendo and decrescendo effect, which has never heretofore been accomplished in the valves of brass wind musical instruments.

I do not confine myself to any particular construction of lever combined with the common needle spring, or its equivalent, to produce the new and important effect, as described.

MILL STONE DRESS—Wm. Finkle, of Cole Creek, Ind.: I claim the skirt furrow, isolated both from the leading and from the intermediate furrow or furrows, for the objects before stated, but parallel to the succeeding leader, in order to facilitate the delivery of the meal as it is ground either in connection or otherwise with the flared and deepened entrances of the leading furrows, as described.

LIGHTNING RODS FOR VESSELS—R. B. Forbes, of Boston, Mass.: I do not claim the system of permanent conductors as applied to the mast of a vessel, in the manner well known as that of Sir William Snow Harris, wherein the conductor is carried down the mast and through the hold and keel of the vessel.

Nor do I claim either the common chain or rod conductor, nor the mode or modes of applying the same.

Nor do I claim to make the conductor of fixed lines of metal, and to extend down the mast to near the lower mast head, and from thence down the after swifters to the ship's side.

Nor do I claim to make that part of the conductor extending down on the after swifter or shroud as one long tube of metal.

But I claim composing it of a system of socket tubes and slide tubes, and confining the same to one of the shrouds or the rigging, and over and against the outside of the hull, and either to the copper sheathing thereon or down to such a depth on the hull that the lower end of the conductor shall always remain immersed in the water under the ordinary rolling or pitching of the vessel while at sea, as specified.

SUBMARINE BATTERY—Joseph Frey and D. B. Burnham, of Battle Creek, Mich.: We claim our arrangement of guns in the hull of a boat under water with port holes and gates, in such a manner as the guns may be loaded and fired at pleasure.

QUARTZ CRUSHERS—Heman Gardiner, of New York City: I claim, first, suspending the basin at the center by a fixed shaft above a bed, as described, whereby, while every part of its circumference is in turn depressed by an arm, and roller, or their equivalents, revolving on the shaft, the lowest part of the basin where the greatest weight is, always rests upon the bed, and the shaft is relieved of the greater portion of the weight of the basin and its contents.

Second, the supplemental ball suspended or attached as described, from the pulley, or its equivalent, revolving above the basin, so that it is always in contact with the inclined part of the basin, where the quartz or ore is most thinly distributed.

STEAM BOILERS—Thomas Greer, of Philadelphia, Pa.: I am aware that vertical, coiled, and horizontal tubes have been used in boilers, and therefore do not claim them.

But I claim, first, a series of angular tubes, arranged and for the purpose as specified.

Second, I claim the horizontal tubes in combination with the angular tubes.

MILK STRAINERS—Joel Gleason, of Geneva, N. Y.. I claim the combination of the packing with the hinged catches, the strainer being supported on the pail by means of the packing, in combination with the catches, and the packing being fixed to the body of the strainer, by locking the tin on to the packing on the underside of the body of the strainer, as shown, all operating as set forth.

PUNCHING RIVET HOLES IN HOSE—John R. Hayne, of Pittsburg, Pa.: I claim the use of the sliding table and the pressing board, in combination with the rack work, the lever, and the finger, for the purpose of moving forward the leather on the sliding table during each stroke of the punching gate, and in combination with the punching gate and punches, as set forth.

REGULATING THE MOTION OF STEAM ENGINES—Wm. C. Hibbard, of Boston, Mass.: I claim, first, the "Isochronal Eccentric," as described, as a device to be used in machines for moving steam valves, or for other similar purposes.

Second, I claim the combination of the isochronal eccentric with a governor or regulator, in such a manner that the governor or regulator shall control the amount of its eccentricity, and thus by the variable movement of the valves, regulate the velocity of the engine, as described.

READING AND WRITING STANDS—Enoch Hidden, of New York City: I do not claim a stand with an adjusting screw on the top of the pillar; nor do I claim a double-jointed bracket; nor do I claim a desk with a box part attached, for containing writing materials, &c., with a hinged top and means of retaining the same at any angle. Nor do I claim the attaching of a jointed bracket, as a lamp or candle holder.

But I claim, first, the combination of the double-jointed bracket and screw, for adjusting the position of the desk, both horizontally and vertically, as set forth.

Second, the application of the sliding clasps with an india rubber or other elastic band for securing books, papers, &c., in the position desired, as set forth.

Third, the mode described of fixing the bracket supporting the lamp or candle holder, admitting of adjustment at every angle the desk may be placed in.

SPIKE MACHINES—Fenton Humphrey, of Boonton, N. J.: I claim, first, the manner of pointing, by which I obtain a change in the place of labor on the rollers at every revolution, as described.

Second, the general construction, arrangement, and combination of the levers, for the specified purposes.

SEED PLANTERS—Samuel Ide, of East Shelby, N. Y.: I claim the series of connected chambers or recesses around the center of the rotating cog wheel, constructed as described, whereby a uniform and continuous distribution of the seed is effected.

CATCH FOR VAULT COVERS—J. K. Ingalls, of Williamsburgh, N. Y.: I claim the additional lip or nose, with the recess for the eye of the cover to fit into and hold the catch, unlocked, as arranged in relation to the other parts of the catch or lock, and operated as set forth.

WASH BOARDS—P. H. Keck, of Morgantown, Va.: I claim the construction of the wash board with the chamber, and closely fitting slide, in combination with the channel and openings for furnishing a constant supply of water to the clothes, as set forth.

ORE STAMPING MACHINES—J. F. Laird, of Philadelphia, Pa.: I claim the arrangement of the lifters by being so placed as to operate on the periphery of the tappet head for the purpose of giving the stampers a partial rotation without requiring other mechanism, as set forth.

CONTROLLING DRAUGHT IN BRICK AND LIME KILNS—J. Leeds, of Philadelphia, Pa.: I claim controlling or regulating the draught of lime, brick, or other kilns, by means of a double dome, in the under one of which the openings are at its outer edge, and in the center of the upper one, so as to force the draught from the center to the outside of the kiln, as described.

I also claim, in combination with kilns controlled by the double domes, the main or auxiliary chimney for increasing the draught in the kiln, as described.

PADDLE WHEELS—W. H. Muntz, of Norton, Mass.: I claim the arrangement consisting in attaching each of the said paddles or floats to wheels or rims, wherein that to which the broad surface of each of the paddles is attached is of greater diameter than the other, and the position of the paddle is in or about in a line parallel to a radial line or one drawn through the center of the wheel shaft, and the face of the paddle is oblique to the plane of this line, which stands perpendicularly to the axis of the shaft.

HORSE POWERS—John A. Pitts, of Buffalo, N. Y.: I claim the boss, and set screws, in combination with the bridge piece, for the purpose of adjusting the spur gear and bevel wheels to the main driving wheel to prevent binding or cutting, as described.

CAST IRON CAR WHEELS—Benj. Severson, of Philadelphia, Pa.: I do not claim any part of the rim nor hub, nor connecting them with a solid web. Neither do I claim common corrugations nor brackets.

But I claim a cast-iron web deeply corrugated where it joints to the rim, with the corrugations gradually lessening in depth as they approach towards the center of the wheel, so as wholly to disappear at or near the hub when it is used for the purpose of uniting a rim and hub, and has its central part strengthened by means of brackets, in the manner and for the purposes set forth.

BRICK KILNS—J. S. Speights, of Baltimore, Md.: I do not claim constructing the kiln with air passages between the fire beds.

I claim the long grates with air passages, which extend clear through the kiln below them, and have doors to admit the air at either or both ends, in combination with small air passages between them, having lateral openings to throw the air under the middle of the fire, as described, for the purpose of regulating the admission of the air to any part of any grate, or every grate, so as to regulate the combustion, and thereby regulate the heat in all parts of the kiln.

BEVELING PLANE—M. J. Wheeler, G. W. Rogers, H. W. Pierce, and M. B. Fidey, of Dundee, N. Y.: We claim attaching the two bevel cutters to two wings, which are hinged by a three flanged hinge, or otherwise, so secured to the body of the plane as to be capable of swinging a certain distance around a common pivot or axis, for the purpose of being adjusted to set their faces and the edges of their cutters at any angle to each other, and to the face of the fence.

HANGING BELLS—J. B. Young, of Harper's Ferry, Va.: I claim the construction of a bell having attached thereto an arm, formed on a tube, having working through it an actuating lever combined with a gravitating piston striker working through a barrel or socket attached to the elbow and arm. The whole used together with the tympanum and combined in its application with the door of a dwelling or otherwise, as set forth.

CEMENT COMPOUND—Wm. H. Poindexter, of Fayette Co., Tenn., administrator de bonis non, of J. R. Remington, dec., late of Macon Co., Ala.: What is claimed as John R. Remington's invention is the use of cotton seed ashes or the ashes of any other oil-yielding vegetable substance as an ingredient of a cement, as set forth, whether it be mixed with rosin and earthy matters or with oil and earthy matter.

KNITTING MACHINE.—Henry Burt (assignor to Newark Patent Hosiery Co), of Newark, N. J.: I claim, first, the hollow bar, or its equivalent, in combination with the extended ends of the sinkers for the purposes described.

Second, I claim the radius bar, constructed and operating as described, in combination with the cylinder and the collar, for the purpose set forth.

PURIFYING OILS—Thos. Drayton, of Brooklyn, N. Y. (assignor to G. W. McCready), of New York City: I claim the described mode or process of using the materials described, for the purpose of purifying oils and producing a burning fluid,

SEWING MACHINES—Wm. Butterfield (assignor to himself and E. M. Stevens), of Boston, Mass.: I do not claim the combination of a needle slide and hooked needle, wherein the slide is made to operate so as to close or cover the hook, and prevent it from catching in the fabric, while it is being drawn through the same.

Nor do I claim any arrangement of applying the closing slide of a hooked needle to the same slide of a needle as is the barb or hook, so that such slide may slide in a groove in the needle, (or carrier thereof) parallel to the motion of the needle.

I claim in the chain stitch sewing machine operating a hooked needle or hook to draw the thread through the material to be sewed, the "rest cast off" in its combination with the hooked needle, and as applied to and made to operate with it and the material to be sewed, and in the loop of thread, as specified.

I also claim the improvement by which the rest cast off is rendered capable of adapting itself to any ordinary thickness or variation of thickness of the fabric or article to be sewed; such improvement consisting in the described mode of operating it by the spring applied to the carrier lever, and made to operate on the lower end of the recess, as stated.

I do not claim the application of a spring to the bobbin for the purpose of enabling the bobbin to fall or turn backward, and to take up the slack of the thread.

But I claim the combination of the bobbin holder, with the spring, the friction disk, and the axle on which the holder turns, the same enabling an empty bobbin to be removed from the holder, and a full one put in its place without disturbing the connection of the spring with the bobbin and friction plate or disk.

SELF-ACTING CHEESE PRESSES—S. W. Ruggles, of Fitchburg, Mass. (assignor to himself, A. R Smith, and J. O. Austin): I am aware that cheese presses, wherein the power applied to effect the pressure is the weight of the cheese, the movable frame and apparatus connected therewith, have been before invented and patented. One such having been patented in Dec., 1831, by one Crane or Cram, of Hanover, N. H., while another was patented by Bethuel Gillet & Lyman Allis, August 26, 1851.

I do not claim either of the devices as patented; my invention being an improvement on the self-acting cheese press, which has an inner movable frame, a movable platen and a system of levers or toggle joints.

Nor do I claim an arrangement of pressure levers, as exhibited in the cheese press patented Aug. 15, 1837, by Sullivan White, such levers not only having their fulcra supported by the top girts of the movable frame and their inferior arms working against the platen or follower, but their superior arms resting and sliding against pins or rollers applied to the stationary frame; the said arrangement being not only cumbersome, but attended with much friction in its operation.

But I claim the general construction and application of the pressing power or mechanism, as described, or the arrangement of the pressure bars or struts, and the arms or pitmen, and their application to the remaining stationary and movable parts of the press, as specified whereby the press is made to operate as explained and to great advantage and power, and with little friction, and is reduced to a very desirable and compact form.

EXCAVATING EARTH—John Taggart of Roxbury, Mass, (assignor to himself and Richard Pitts, of Dorchester, Mass): I do not claim the combination of a hand windlass with the line, whereby such line would be wound upon the windlass by the power of a person applied to its spokes or levers.

Nor do I claim the combination of a friction brake and brake wheel with a windlass.

But I claim the combination of the gravitating weight and its line, with the windlass barrel, and the brake wheel, so as to operate automatically and rotate both windlass and brake wheel, and not only take up the slack of the rope, while the scoops are being elevated, as described, but at the same time to set the brake wheel ready for the action of the brake, when it becomes necessary to drop the scoops in order to discharge their load.

I do not claim the employment of a single line and two branch lines applied respectively to the two scoop levers and independently of their boom.

But I claim the arrangement of the branch lines of the line, so as not only to operate through the ends of the scoop levers, but also through guiding or sheave passages of the boom, such an arrangement of the branch lines producing an increase of draught on the scoop levers during the operation of closing them. as specified.

I also claim, in combination with the described arrangement of the line through the sheave openings of the boom, and the two scoop levers or about their sheaves, as specified, the union of the branches into one line in connection with the carrying such line through a compensating passage of the boom, and permitting it to slide freely through the same, as described, the same being for the purpose of enabling the scoops to close together or upon an object whenever the movement of one of them during the operation of closing them together, is arrested by contact with an obstacle, as explained.

I am aware that a single scoop has been applied to a boom, and that boom made to slide through a slotted horizontal rocker shaft projected over the side of a scow.

I am also aware that double scoops have been applied to a boom or an upright frame made to have vertical movements, and to work through a derrick or platform.

I do not therefore claim any such applications of a boom of a single scoop, or the supporters of a set of scoops. Neither do I claim the combination of a rocker tube or eye, with a rocker frame, as described, and for the purpose of obtaining a compound movement.

But I claim the combining the boom and the working ropes of it and its scoops with a crane, as specified, so that the scoops may be free to be moved not only vertically, but also in any direction either towards or away from, or laterally with respect to the crane and its platform, whereby while the scoops are grasping a stump or other article adhering to the mud or earth, a lateral movement of the crane may be employed to effect leverage on the scoops in a lateral direction, so as to aid in disengaging the stump or article grasped by the scoops, and to effect this without injurious strain on the boom or the parts through which the boom slides.

RE-ISSUE.

PEGGING BOOTS AND SHOES—J. J. Greenough, of New York City. Patented originally Jan. 17, 1854: I claim the automatic combination constituting my improved pegging machine and composed of the following elements, or their mechanical equivalents, enumerated in the succeeding claims, and comprising the peg cutter, peg driver, center guide, shoe movement, etc.

I also claim the cutting of the peg from the peg blank by a lateral motion of the cutter against the side of the blank, the cutter assisting to hold the blank in position while it is driven as described.

I also claim the combination of parts composing the universal movement carriage, consisting of a disk supported upon the arm of a horizontal lever, so that it can be raised or lowered surmounted by the device for holding the work, having a free motion in all directions, as described.

I also claim the center guide for directing the movement of the shoe or other article in the course indicated by the pattern of the sole for the purpose of keeping the line of the pattern, as specified, so as to keep the line of the pattern coincident with that of the awl and peg driver.

I also claim so constructing, arranging, and operating the shoe carriage that each point of the sole which is to receive a peg shall be brought successively to the same point under the stationary pegging standard, so that the pegging shall be effected without interruption entirely around the shoe or other article, as described.

I also claim, in combination with the movable carriage, the stationary pegging standard made adjustable or the equivalent of that adjustment, so that the pegs can be driven at any distance from the edge of the sole or center of motion of the carriage holding the material to be pegged, as set forth, so that a new pattern will not be required to drive a second row of pegs within the first row.

I also claim driving the pegs by a tool having a positive motion, as described, in both directions.

GUN LOCKS—James Hults, of Berlin Township, Ohio: Patented originally dated May 16, 1854: I claim giving such a shape to the tumbler or to the sear, or their equivalents, that the sear will not catch, and safely hold back the cock in a cocked position, except when it is acted upon by a perfectly rigid force—and in connection with the said peculiar arrangement of the tumbler, and the sear, I also claim the combination of the jointed levers with the sear, in such a manner that said levers will rigidly act upon the sear, and cause it to safely hold the cock when it is thrown into a cocked position, as set forth.

I also claim the set screw, arranged in such a manner in relation to the jointed levers and the sear and the tumbler, that its adjustment to a greater or less extent, will render it necessary to exert a greater or less degree of power upon the trigger, to detach the sear from its hold upon the tumbler, when the cock is in a cocked position, as set forth.

DESIGN.

TEA OR COFFEE POT—Wm. Hattersley and Charles Dickinson, of Newark, N. J.

NOTE.—Several of our clients will notice their names in this week's list of patents. Great activity prevails among inventors, and it is gratifying to notice increased energy in the Patent Office in the examination of cases.

Patent Cases.

INDIA RUBBER.—The case Horace H. Day, versus the New England Car-Spring Co., was suspended on the 5th inst., after being before the U. S. Circuit in this city for about six weeks. The cause of suspension was the death of one of the jury. All the expense of this trial has been lost to the parties in the case.

MOWING MACHINES.—At Canandaigua, N. Y., on the 7th inst., before Judge Hall, U. S. Circuit Court, the case of Howard versus Forbush and others, for infringement of the patent of W. F. Ketchum, was concluded, after a trial of four days, in favor of the plaintiff. The jury decided that the reissued patent of April 1851, of W. F. Ketchum, was good, and was a corrected copy of the original one of July 1847. The Jury also decided that the machine of Forbush is embraced in Ketchum's claims, and is an infringement of his re-issued patent.

We cannot vouch for the correctness of the above report, but publish it as a telegraphic dispatch from Canandaigua, sent by some person unknown to us.

[For the Scientific American.]

Correction—Steam and Fire Regulator.

In examining the engravings and published description of our Steam and Fire Regulator for steam boiler fires, which appeared in your issue of May 20th, 1854, I find the engravings do not convey a correct idea of the construction and operation of our invention. The point to which we would call your attention, is the relation which the diaphragm bears to the piston and cylinder. Your description says, "the bore of the cylinder must be as much greater than the piston as will allow of the diaphragm assuming the position thrown at S and S, figures 2 and 3." Now this position is not properly shown by the cut. The space between the piston and cylinder being relatively too great. Perhaps I might convey a clearer idea of the amount of space necessary to be left between the piston and cylinder, by saying that the space between the piston and cylinder should be exactly equal to double the thickness of the material used for a diaphragm. The design being to have the area of fluid pressure against the unsupported part of the diaphragm reduced to the smallest possible quantity. By proper care in this respect a diaphragm will bear, say 110 lbs. to the square inch, without straining or stretching in the least. Yours, &c., E. Z. PRATT,

Sec'y Clark's Patent Steam & Fire Regulating Company, 208 Broadway.

Congressional Favors.

We are indebted to Senators James, Fish, Seward, and Douglas, for speeches and other Congressional documents of value to us. Our thanks are also due to General Walbridge, J. A. McDougall, and R. H. Stanton, for repeated favors in the same line.

A Meteor.

We were the observers of a ball of fire about the size of a full moon, which shot across the heavens over our village on Thursday evening, June 29th, at ten o'clock. We first heard a rumbling noise, which was followed immediately by a ball of fire moving from South to North. The extreme hot state of the atmosphere may have had something to do with its appearance. —[Barnwell (S. C.) Sentinel.

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LITERARY NOTICES.

LESLIE'S LADIES' GAZETTE.—Office No. 6 John street. 25 cents single number, $3 per annum. This work is just what its title purports it to be, a ladies gazette of fashion. The July number is out and the contents are good, if not quite equal in some respects to some of the previous numbers. Ladies should patronize this periodical liberally, and it is understood they do.

WALL STREET JOURNAL.—A weekly newspaper published by Robinson & Co., 68 Wall street, terms $2.50 per annum. For business men this journal is as indispensable as the "Scientific American" is to the mechanic, inventor, and artisan. Each number contains the weekly transactions of the Board of Brokers, the condition of the city banks, the sales of real estate at auction, etc., etc. The editorials are piquant, saucy, and in the main reliable. It is a paper which we like to read, and one which we take home with us to read at our leisure. The editors weekly review of the financial affairs of the city, and the future prospects of the country financially—are written in a pleasing style; unlike most writers upon such subjects, his articles are far from being prosy.

HOUSEHOLD WORDS, Conducted by Charles Dickens. American edition published by T. L. McElrath & Co., 17 Spruce street, New York. The number for July contains a continuation of Dickens' new story, "Hard Times," also several other articles of rare interest. Some of the ablest writers in Europe assist Dickens in the editorial management of "Household Words," and a fair estimate of its interesting character may be adduced from the great amount of "copy" it furnishes to other magazines and journals. Terms per annum, $2.

ILLUSTRATED MAGAZINE OF ART.—The July number of this beautiful and really useful publication has been sent us by T. L. McElrath & Co., No. 17 Spruce street, N. Y., who have succeeded A. Montgomery, its former publisher. The illustrations are very numerous and its contents varied and interesting We know of no work of the same character equal to it. Published monthly, Each number 25 cts.

LITTELL'S LIVING AGE.—This excellent weekly has just commenced a new volume, the first article is on that strange, half crazy queen Christina of Sweden. Every number is now illustrated with a steel engraving. The publishers office, this city, is 343 Broadway.

CHAMBERS' JOURNAL—For July.—This popular magazine is re-published in this city by P. D. Orvis, No. 130 Fulton street. It contains the travels of Wm. Chambers while in the United States during the past year. They are very interesting, but in many instances, superficial and incorrect, as is usually case with mere tourists' descriptions. This is one of the ablest and cheapest magazines in the world.

KNICKERBOCKER—For July.—"Old Knick," as usual, overflows with wit and humor. The first article on the "Availability in Candidates for the Presidency," is one of the best we have ever read. The table of the Editor (Louis Gaylord Clark) is by far the most entertaining of any magazine in our's or any other country. This number begins a new volume—an excellent time to subscribe.

PUTNAM—For July.—This number is the first of Volume 4, and contains a fine steel plate of the author of "The Potiphar Papers,"—who is really goo looking. The leading article is on "The Types of Mankind," the author of it does not seem to take any good stand for or against the views of Agassiz, Newton, and Gliddon. But he treats the whole subject in a weak manner. This magazine maintains a high position among the literary periodicals of the "First Class."

GRAEFENBERG ALMANAC, or Light for the World—for 1855, is rather in advance of the season—but as it has thought proper to "take time by the forelock," we can do no less than to announce its enterprize in such matters. The almanac contains several humorous illustrations, sharp jokes, calculations upon the hour glass of time, besides the usual amount of eloquent recommendations of the Graefenberg medicines, which have attained considerable celebrity and are sold by the Company at No. 32 Park Row, New York. We believe the Almanac is gratis—medicines not.

MAGAZINES FOR JULY, Messrs. H. Long & Bro., 43 Ann street, have sent us "Godey's Ladies' Book" and "Graham's Magazine" for July. They are fine numbers, and are well supplied with reading adapted to the season.

TO CORRESPONDENTS.

H. G. R., of Tenn.—It would not be patentable to have a saw move instead of the log in saw mills. We wrote you severel days since is regard to the washing machine.

McA. & Bro., of Phila.—Be pleased to send an illustrated catalogue to this office, and oblige yours.

D. R. K., of Philadelphia.—Grate bars of tubing filled with water were illustrated in Vol. 4, Sci. Am. Boilers have been made with the fire in their centers. The raising of water in a vacuum can be obtained at a less cost by steam, than by the flame of alcohol. The lamp that you speak of to burn different fluids by separate wicks joined into one at the top can no doubt be made and the fluids burned together. A machine is wanted to make ice cheap, in warm climates; who will make one? Your plan of a shoe last is good—lead outside, and something else inside. Zinc would not make a good carriage top.

D. P., of Pa.—If you mix the tar and black lead with some oil, you may get a coating for your rope to answer a good purpose.

A. T., of Mass.—There is more carbon in the steel, hence it is not so easily silverized as the wrought iron, We cannot give you the proper information desired.

G. McD., of Conn.—You could not get electrical attraction to operate successfully in attracting fur, for any practicable purpose in the arts.

W. T. C., of Mich.—The figures you speak of in Rules, are made with black paint, made with well boiled oil and lampblack. A patent might be granted for the gauge you speak of, but we do not know, because we are are not acquainted with its construction; no such apparatus to our knowledge is at present in use.

A. Z. M. D., of Phila.—Your article is very interesting, but we cannot publsh it on account of its errors, for instance in the account of the three experiments there is no difference in the results according to the quantities of the two first, and you say there is an increase of seven, one-tenth per cent. In the third quantity you say 7 lbs. 19 ozs., and 6 lbs. 23 ozs: there are only 16 ozs. in a pound. If you would make full corrections in another article of the same length we would like to publish it.

L. J., of Mich.—Would not Gwynnes' pump be the very one you want. There was another at the World's Fair in London, "Brooman's," constructed on the same principle, but different in the details, but no other centrifugal pump was exhibited here.

L. D. A., of Wis.—The bichromate of potash is the substance used for making ink. It will not curdle the liquor if the process is properly conducted. The husks are dried in the shade first, then exposed to very warm sunshine before being used. The great object is to remove the moisture entirely from them: that is all. We have found no trouble in making the ink.

P. P., of N. H.—Your idea of forcing a current of air through a tube by means of a fan blower, for supplying apartments, is well known and could not be patented.

I. C. Spence, of Murfeesboro, Tenn.—wishes to know where he can procure machinery for making tubs and buckets.

G. C. S., of Ct.—We have very carefully examined the sketch of your blind slat machine, and we think it possesses novel features. The arrangement is different from any machine known to us for the purpose.

F. G. W., Mass.—We do not know of any parties who would engage in the locomotive building in this city.—Our attention was called to the importance of such a manufactory here by an editor residing in the interior. You might be able to form an association with some one by advertising in the city papers.

E. D. & B., of Mo.—By reference to our advertising columns you will notice advertisements of planing machinery, and we would advise you to write to the different makers for information in regard to the capabilities of their machines to perform your work. We should think either the Woodworth, Norcross or Beardslee machine would answer.

D. T., of N. Y.—You are certainly mistaken about the moon's rays. The luna rays do exhibit chemical properties, or how could they affect the plate of daguerreotypists, and make the moon paint her own likeness. The heat ray is said to be absent, not the chemical one.

S. L. H., of Ill.—Your alleged improvement in governors for machinery appears to be more complicated than the kind ordinarily used. The arrangement appears to be new, and we should think patentable. We would advise a trial of it.

L. M., of Ct.—There appears to be novelty in your contrivance for fan blowers, and we would advise you to try it, and it operates satisfactorily you had better send us a model.

I. D. B., of Mass.—The public use of an invention for any period less than two years previous to an application for a patent, does not invalidate the right of an inventor to a patent. The 15 months use therefore cannot affect your claims.

A S., of N. Y.—Machines for adding, multiplying, dividing, etc., would be useful to those who are not "ready in figures." Such machines, however, are not uncommon, and we have not heard of any urgent call for them by the public. In vol. 6 Sci. Am. we published Nystrom's calculating machine, one of the most ingenious we have ever noticed in that line, To be useful however, it must be thoroughly understood—this is apparently the most difficult part of all.

O. W., of N. Y.: E. L. N., of Mass.; A. W., of N. Y.; J. J. A., of O.; J. H., of N. Y.; J. C. R., of O.; J. R. P. of N. Y.; R. M. W., of Va.; L. D., of N. Y., D. L. L, of Mo.: T. A., of Mass.: J. L., of Pa.; O. N., of Pa.; S. W., of N. Y.; A. H. C.. of O.; F. A., of Ct.; J. C. R., of N. Y., and J. W., of Mass.,—

Your several inventions are in the hands of the draughtsman and engravers, (part of which are already completed by the artists) and will appear in the order in which application was made at this office for having them executed. We would remind those who are in haste to have engravings of their inventions published in the Sci. Am., that the earlier they send their letter's patent and order engravings prepared, the earlier will we be able to insert them. "First come first served," is our rule in publishing engravings, as well as in preparing applications for patents.

Money received on account of Patent Office business for the week ending Saturday, July 8:—

C. P., of Pa., $10: S. H. G., of Ct., $30; W. & W., of N. Y., $100: E. S., of N. Y., $30; I. G. McF., of Pa., $10: G, V. H., of —. $10; J. T. B., of Pa., $30; N. C. S., of Ct., $30; U. G., of O., $30: J. C., Jr., of Ct., $30; L. & S. of O., $25: H. & C., of N. Y., $35; C. C., of S. I., $30; N. M., of N. Y., $25: A. M., of L. I., $25.

Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, July 8:—

M. & S., of L. I.: H. & N, of L. I.: A. W., of N. Y.: J. C. F., of N. Y.: A. M., of S. I.; I. G. McF., of Pa.; L. & S., of O.; N. M., of N. Y.; H. & C., of N. Y.; L. S. M., of Mass.

ADVERTISEMENTS.

Terms of Advertising.

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16 "	$3 00

Advertisements exceeding 16 lines cannot be admitted; neither can engravings be inserted in the advertising columns at any price.

☞ All advertisements must be paid for before inserting.

American and Foreign Patent Agency.

IMPORTANT TO INVENTORS.—The undersigned having for several years been extensively engaged in procuring Letters Patent for new mechanical and chemical inventions, offer their services to inventors upon the most reasonable terms. All business entrusted to their charge is strictly confidential. Private consultations are held with inventors at their office from 9 A. M., until 4 P. M. Inventors, however, need not incur the expense of attending in person, as the preliminaries can all be arranged by letter. Models can be sent with safety by express, or any other convenient medium. They should not be over 1 foot square in size, if possible.

Having Agents located in the chief cities of Europe, our facilities for obtaining Foreign Patents are unequalled. This branch of our business receives the especial attention of one of the members of the firm, who is prepared to advise with inventors and manufacturers at all times, relating to Foreign Patents.

MUNN & CO., Scientific American Office,
128 Fulton street, New York

EUROPEAN PATENTS.—MESSRS. MUNN & CO. pay especial attention to the procuring of Patents in foreign countries, and are prepared to secure patents in all nations where Patent Laws exist. We have our own special agents in the chief European cities; this enables us to communicate directly with Patent Departments, and to save much time and expense to applicants.

SUBMARINE ARMOR—For sale,—A complete suit, with the Pump and rescuing apparatus, in excellent order and ready for immediate use. Address GEO. C. HOWARD, Tool Builder and General Machinist, 18th street, below Market, Philadelphia. 44 4*

PARTNER WANTED.—In the foundry business, an old establishment, and in successful operation. Situated on a line of railroad, about 40 miles from Buffalo. This is a desirable offer. Address, if by letter, P. P., Box 27, Dunnville, C. W. 44 3*

FAIRMAN & WILLARD'S BORING MACHINE, for boring car wheels. This is the best machine in use, and warranted to bore thirty wheels in ten hours, and bore them perfectly true. It is equally well fitted for boring Pulleys, Gearing, &c. Price $600, cash.
JAMES W. HOOKER,
43 4eow Buffalo Machinery Depot, 36 Lloyd St., Buffalo.

FOR RAILROADS AND MACHINE SHOPS. I am prepared to furnish at the lowest rates, the following Oils: Pure Refined Sperm, Solar, Sperm, and Engine Oil, for locomotives, &c. Refined Elephant Oil, for burning. Lard oil, No. 1, 2, and extra. Lubricating, Whale, and Resin Oil, for heavy machinery.
JAMES W. HOOKER,
43 4eow Buffalo Machinery Depot, 36 Lloyd St., Buffalo.

25 HORSE POWER ENGINE AND BOILER complete. Ready for shipment—has upright tubular boiler—cylinder horizontal on heavy bed frame—flue heated governor, &c., for sale by.
JAMES W. HOOKER,
43 3 Buffalo Machinery Depot, 36 Lloyd St., Buffalo.

BUFFALO MACHINERY DEPOT. JAMES W. HOOKER, 36 Lloyd St., Buffalo, offers for sale all kinds of machinery, as follows: Engine Lathes, Planing Machines, Universal Chucks, Caststeel Borers, Drills, Leather and Rubber Belting, Packing and Hose Oils, Millstones, Portable and Stationary Engines, Boilers, and Machinery generally. 43 tf

PATENT ROCK DRILL.—The simplest, cheapest and best ever offered to the public. For information apply to A. B. ELY, Esq., Boston, Mass., agent of North American Rock Drilling Company. 43 3m

FOR SALE, LOW.—The Patent of a Self-Unloading and Adjusting Hay Elevator. Patented May 30th 1854. Address, Horsham, Pa.
43 7* T. T. JARRETT, Patentee.

READING'S PATENT CORN SHELLER and Cleaner—capacity 200 bushels per hour. 9 first premiums awarded in the Fall of 1853. Patent Rights and Machines now for sale at the corner of 2nd Street and Pennsylvania Avenue, Washington, D. C. I challenge the world to produce its equal. Address personally or by mail. WILLIAM READING. 43 13*

THE EUROPEAN MINING JOURNAL, Railway and Commercial Gazette. A Weekly Newspaper, forming a Complete History of the Commercial and Scientific Progress of Mines and Railways, and a carefully collated Synopsis, with numerous Illustrations of all New Inventions and Improvements in Mechanics and Civil Engineering. Office, 26 Fleet Street. London. Price $6 1-2 per annum. 43

UNITED STATES PATENT OFFICE.
Washington, June 19, 1854.

ON THE PETITION of George Draper, of Milford, Massachusetts, praying for the extension of a patent granted to him on the 28th of October, 1840, for an improvement in "rotary temples for looms," for seven years from the expiration of said patent, which takes place on the 28th day of October, 1854—

It is ordered that the said petition be heard at the Patent Office on Monday, the 16th of Oct next, at 12 o'clock, M.; and all persons are notified to appear and show cause, if any they have, why said petition ought not to be granted.

Persons opposing the extension are required to file in the Patent Office their objections, specially set forth in writing, at least twenty days before the day of hearing. All testimony filed by either party, to be used at the said hearing, must be taken and transmitted in accordance with the rules of the office, which will be furnished on application.

The testimony in the case will be closed on the 6th of Oct.; depositions and other papers relied upon as testimony, must be filed in the office on or before the morning of that day; the argument, if any, within ten days thereafter.

Ordered, also, that this notice be published in the Union, Intelligencer, and Evening Star, Washington, D. C.; Evening Argus, Philadelphia, Pa.; Scientific American, New York; and Post, Boston, Massachusetts, once a week for three successive weeks previous to the 16th day of Oct. next, the day of hearing.

CHARLES MASON,
Commissioner of Patents.

P. S—Editors of the above papers will please copy, and send their bills to the Patent Office, with a paper containing this notice. 42 3

T. M. CHAPMAN'S PATENT SAW FILING Machine. The best known and without a rival. The subscriber offers for sale Territorial Rights, and also builds and sends machines wherever they may be wanted. T. M. CHAPMAN, Patentee, Old Town, Me. 40 10*

PALMER'S PATENT LEG—"The best appliance ever invented." Pamphlets containing the testimonials of the first American and European surgeons, and other information concerning this invention sent gratis to all who apply to PALMER & CO., Springfield, Mass.: or 376 Chesnut st, Philadelphia. 42 13*

LEONARD & WILSON—No. 60 Beaver st. and 109 Pearl st, have constantly on hand and for sale a full assortment of Machinists' and Carpenters's Tools, embracing every variety of Engine and Hand Lathes, Iron Planing Machines, Mortising and Tenoning Machines, Wood Planers, &c. Also, Leather Belting of all sizes made of the best oak tanned butts, stretched on powerful machines, riveted and cemented. 42 13*

IMPORTANT—To Machinists and Mathematical Instrument Makers. An application for a patent is on file for an attachment to Gear Cutting and other Dividing Engines, by means of which the circle may be accurately divided into any desirable number of equal parts. Persons wishing to use such an attachment, or to become otherwise interested in the right, will receive further information by addressing, post-paid, P. O., box 116, Worcester, Mass. WM. H. BROWN. 42 4*

MATHEMATICAL,—Optical, and Philosophical Instruments. Our priced and illustrated Catalogue furnished on application, and sent by mail free of charge. McALLISTER & BROTHER,
42 4 Opticians, 48 Chesnut st, Philadelphia.

PATENT RIGHT FOR SALE.—We are ready to dispose of the Patent Right, (or any part of it) of the best Stone Drilling Machine now in use, or we are prepared to furnish working machines at very reasonable prices, these machines will drill from 1 to 7 inches in diameter, and 100 feet deep, and can be worked by Hand, Horse, or Steam Power, one machine performing the work of twenty-five men. For further particulars and circulars with cuts address JAS. T. WHITTEMORE, Agent American Manufacturing Co., 39 State street, Boston. 40 tf

MACHINERY.—S. C. HILLS, No. 12 Platt-st., N. Y. dealer in Steam Engines, Boilers, Iron Planers Lathes, Universal Chucks, Drills; Kase's, Von Schmidt's and other Pumps; Johnson's Shingle Machines; Woodworth's, Daniel's, and Law's Planing Machines; Dick's Presses, Punches, and Shears; Morticing and Tennoning Machines; Belting; Machinery Oil, Beal's Patent Cob and Corn Mills; Burr Mill and Grindstones; Lead and Iron Pipe, &c. Letters, to be noticed, must be post-paid. 27tfeow

PORTABLE STEAM ENGINES—The subscriber is now prepared to supply excellent Portable Engines, with Boilers, Pumps, Heaters, etc., all complete, and very compact, say 2, 3 1 2, 3, 4, 6, 8, and 10 horse-power, suitable for printers, carpenters, farmers, planters, &c., they can be used with wood, bituminous, or hard coal; a 2 1-2 horse engine can be seen in store, it occupies a space 5 feet by 3 feet, weighs 1500 lbs., price $240; other sizes in proportion. S. C. HILLS,
25eotf Machinery Agent, 12 Platt st, N. Y.

STAVE AND BARREL MACHINERY—HUTCHINSON'S PATENT.—This machinery, which received the highest award at the Crystal Palace, may be seen there in operation during the ensuing season. Cutting, Jointing and Crozing Staves and Turning Heads. Staves prepared by this process are worth to the cooper from 20 to 40 per cent more than when finished in another way. Applicable alike to thick and thin staves. Apply to C. B. HUTCHINSON & CO., Auburn, N. Y., or at the Crystal Palace. 34tf

KENTUCKY LOCOMOTIVE WORKS—Corner of Kentucky and Tenth streets, Louisville, Ky.—The proprietors of the Kentucky Locomotive Works would respectfully inform Railroad Companies and the public generally, that, having completed their establishment, they are now prepared to receive and execute orders with fidelity and dispatch. They will contract for Locomotives, Passenger, Baggage, Freight, Gravel, and Hand Cars, of every style and pattern, as well as all kinds of Stock and Machinery required for railroads. Particular attention will be paid to Repairing, for which they have every facility. They are also prepared to contract on favorable terms for building all kinds of Machine Tools, such as Turning Engines, Lathes, Planers, Drills, Slotting, Splining, and Shaping Machines of every variety of pattern. Having also a large Foundry connected with the establishment, orders for castings are solicited, and will be filled with promptness. Car Wheels of any pattern can be furnished on short notice. Double and single plate and Spoke Wheels of all sizes constantly on hand. Communications or orders must be addressed to OLMSTED, TENNEYS, & PECK, Louisville, Ky. 406m.*

PIG IRON—Scotch and American; also English Boiler Plate and Sheet Iron, for sale at the lowest market prices, by G. O. ROBERTSON, 135 Water st, cor. Pine, N. Y. 40tf

JOHN PARSHLEY, No. 5 and 7 Howard st., New Haven, Ct., manufacturer of Machinists' Tools, and Steam Engines, has now finishing off 25 Engine Lathes, 6 feet shears, 4 feet between centers, 15 inches swing, and weighs about 1100 lbs. These Lathes have back and screw gear, jib rest, with screw feed, and the rest is so arranged that the tool can be adjusted to any point the work may require, without unfastening the tool, hence they possess all the good qualities of the jib and the weight lathe; they are of the best workmanship. Price of Lathe with count shaft and pulleys, $155 cash. Cuts, with full description of the lathe, can be had by addressing as above, post-paid. Also four 30 horse power vertical Steam Engines with two cylinders. Price of engine with pump and heater, $800 cash. For particulars address as above. 35tf

$100 REWARD—To the Manufacturers of Bank Note Paper. The Executive Committee of the Association of Banks for the Suppression of Counterfeiting, hereby offer a reward of One Hundred Dollars for the best specimen, in the opinion of the Committee, of Bank Note Paper, of not less than five hundred sheets, which may be submitted to them on or before the 1st day of January next. All paper submitted, except that selected by the Committee, to be returned to the persons submitting the same.
J. M. GORDON, Secretary,
Boston, Mass., March 31 1854. 31 15*

FULTON FOUNDRY AND MACHINE WORKS S. W. corner of Green and Morgan streets, Jersey City, N. J. The subscribers are prepared to contract for Sugar Mills and Mining Machinery of every description. Horizontal Steam Engines of various sizes constantly on hand. All orders executed with promptness.
34 13* FIELDS, BROTHER & CO.

FOR SALE—By the Baltimore and Ohio Railroad Co., 24 Crate Cars, adapted to railroad purposes, which will be sold at a reasonable price. For further information apply to SAMUEL J. HAYES, M. of M., Baltimore and Ohio R. R. Co., or BRIDGES & BRO., 64 Cortland st., New York. 34 tf.

NORCROSS' ROTARY PLANING MACHINE. The Supreme Court of the U. S., at the Term of 1853 and 1854, having decided that the patent granted to Nicholas G. Norcross, of date Feb. 12, 1850, for a Rotary Planing Machine for Planing Boards and Planks, is not an infringement of the Woodworth Patent.

Rights to use N. G. Norcross's patented machine can be purchased on application to N. G. NORCROSS,
208 Broadway, New York.

The printed Report of the case with the opinion of the Court can be had of Mr. Norcross. 36 6m*

MACHINERY FOR SALE—The following machines are for sale at the "Scientific American" Office:—Alcott's Concentric Lathe, price $25.
Portable Mortising Machine, $20
Bushnell's Iron Drill, $25
All orders should be addressed (accompanied with the cash) to MUNN & CO., 128 Fulton st., N. Y.

MACHINISTS TOOLS—Power Planers 4 to 16 feet long, weight 1,000 to 10,000 lbs. Engine Lathes, 6 to 19 feet long, weight 1,700 to 8,400 lbs., swing 21 to 38 inches. Hand Lathes, Gear Cutters, Drills, Bolt Cutters, Slide Rests, Chucks, &c., of best materials and workmanship constantly on hand, and being built, also the best Grain Mills in the country, "Harrison's Patent." For cuts giving full description and prices address NEW HAVEN MANUFACTURING CO., New Haven, Conn. 38 tf.

WOODWORTH'S PATENT Planing, Tonguing, Grooving Machines.—Double machines plane both sides, tongue, and groove at one and the same time, saving one half of the time when lumber is required to be planed on both sides. Large assortment constantly on hand. Warranted to give entire satisfaction to purchasers. JOHN H. LESTER,
37 13* 57 Pearl st, Brooklyn, L. I.

ENGINEERING.—The undersigned is prepared to furnish specifications, estimates, plans in general or detail of steamships, steamboats, propellers, high and low pressure engines, boilers and machinery of every description. Broker in steam vessels, machinery, boilers, &c. General Agent for Ashcroft's Steam and Vacuum Gauges, Allen & Noyes' Metallic, Self-adjusting Conical Packing, Faber's Water Gauge, Sewell's Salinometers, Dudgeon's Hydraulic Lifting Press, Roebling's Patent Wire Rope for hoisting and steering purposes, etc., etc.
CHARLES W. COPELAND,
35 tf Consulting Engineer, 64 Broadway.

PLANING, TONGUING, AND GROOVING—BEARDSLEE'S PATENT.—Practical operation of these Machines throughout every portion of the United States, in working all kinds of wood, has proved them to be superior to any and all others. The work they produce cannot be equalled by the hand plane. They work from 100 to 200 feet, lineal measure, per minute. One machine has planed over twenty millions of feet during the last two years, another more than twelve millions of feet Spruce flooring in ten months. Working models can be seen at the Crystal Palace, where further information can be obtained, or of the patentee at Albany, N. Y
27tf GEO. W. BEARDSLEE.

STATIONARY STEAM ENGINES—The subscriber is now prepared to furnish, with or without pumps, boilers, &c., Horizontal Engines on iron bed frames, good strong, substantial, plain finished engines that will do good service, say from 4 horse, $215, to 30 horse, $1,037: they have Judson's patent valves, and will be warranted to work well. S. C. HILLS,
31tf 12 Platt st, New York.

A. B. ELY, Counsellor at Law, 52 Washington street, Boston, will give particular attention to Patent Cases. Refers to Messrs Munn & Co., Scientific American.
16 1y*

NOVELTY IRON WORKS—Manufacturing of Machinists' Tools: also Engine Lathes, with an improved Tool Rest, Lathes, and Iron Planers kept on hand: for sale by W. W. NICHOLS & CO., cor. B and Turnpike street, Boston, Mass. 41tf

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Scientific Museum.

A New Pin Factory.

We learn by the Albany "Knickerbocker," that a factory for making pins is about to be established in that city, by Messrs. Root & Co. It says: "they commence operations with twenty-four machines, which will be increased during the present year to one hundred. Each machine will turn out one hundred pins a minute. This is equal to six thousand per hour, or sixty thousand per day. At this rate the twenty-four machines will produce *daily*, pins to the amount of one million four hundred thousand! The machines are very simple and are managed by girls and boys with as much success as could be derived from the employment of men."

In further speaking of these machines, the "Knick." says: "Pin making has become a very lucrative employment. The improvements which have been made within the past fifteen years, have quite revolutionized the matter and given the pins manufactured in the United States preference over those made in any other part of the world. In this country pins are made with solid heads—that is, the whole pin is made at one stroke, and with one piece of wire. To place a proper estimate on this process, the reader should examine the manner with which pins are made in Great Britain."

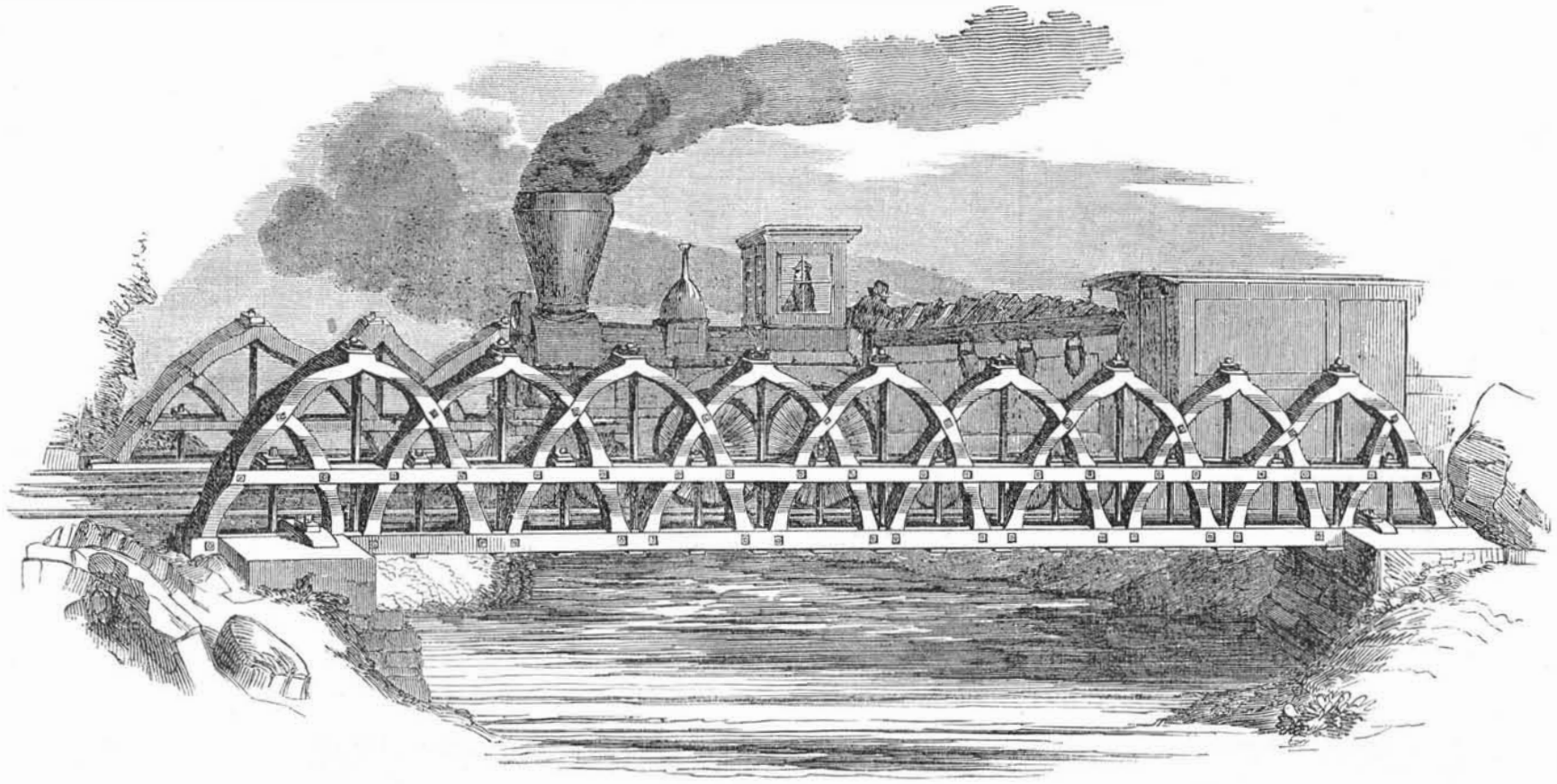
Here our cotemporary gives a long and detailed description of the complicated old method of making pins, by making the heads separate from the shank, supposing that this is the method now pursued in England for making pins, while the fact is, that the American pin machines have been used in England for quite a number of years. "Uncle John" now makes his pins with solid heads, as well as Brother Jonathan.

The truth is that new and good improvements in machinery made in America, are now almost as soon introduced into England as at home, and *vice versa*, and this is as it should be. The great strife between nations should be "good to man, the advancement of literature, science and art," and not struggles for pelf and power.

Coal in Kentucky.

Eleven beds of coal have been discovered in Kentucky, in the recent geological examination of the State by D. D. Owen. The beds vary from two to five feet in width, and are in the southwestern part of the State.

THAYER'S NEW TRUSS BRIDGE---Figure 1.



The annexed engravings are views of an improvement in the truss for iron bridges, roofs, &c., for which a patent was granted to G. W. Thayer, formerly of Springfield, but now of Hartford, Conn., on the 11th of last April, (1854.)

Figure 1 represents a perspective view of the truss as applied to a railroad bridge; fig. 2 is a view of one of the gothic-arch braces detached, and fig. 3 represents two of the vertical rods with their straining blocks, their nuts and screws, the longer one extending from the bottom of the lower chords to the top of the gothic-arch braces, and the shorter one extends from the bottom of the lower chords to the top of the upper ones. The same letters refer to like parts. Each two of the gothic-arch braces are locked together at L, and secured by screw bolts. The lower chords of the bridge are applied to the tenons and shoulders, P P, at the bottom of the gothic arch braces—one on each side, and secured thereto by bolts. The upper chords of the bridge are applied to the daps and shoulders at D, near the middle of the braces, and are secured by bolts. The longer rods, E, pass through straining blocks beneath the lower chords, or through straining cross beams beneath them, and extend upwards between the chords and through the top of the gothic-arch braces, where they are secured by nuts and screws. The shorter rods, F, pass through straining blocks beneath the lower chords, extend upwards, and are secured at the top of the upper chords by straining blocks, nuts, and screws.

The advantages of this truss over others of a different construction are stated to be, first, "that it is not so liable to be affected by expansion and contraction from heat and cold; second, not liable to be increased in length by cambering; third, there is no thrust strain on the chords, but the greater the pressure on the truss, the nearer the parts are brought together, and the closer becomes the joints; fourth, every piece supports a part of the whole structure, and there is no dead-weight of iron or useless material."

The claim for this improvement in trussing for bridges and roofs, will be found in this Vol. "Scientific American," in our list of patents on page 251.

Fig. 2

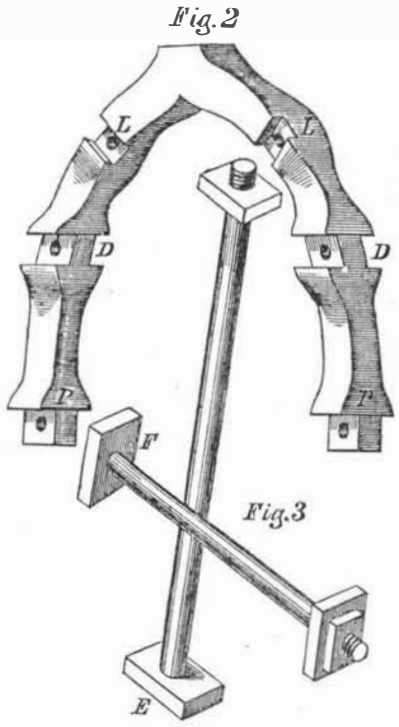


Fig. 3

More information upon the subject may be obtained by letter addressed to Mr. Thayer, at Hartford, Conn.

Lamps in the Houses of the Arabs.

The houses of the Arabs are never without lights. Not only all the night long, but in all the inhabited apartments of the house. This custom is so well established in the East that the poorest people would rather retrench part of their food than neglect it. Therefore Jeremiah makes the taking away of the light of the candle, and the total destruction of a house the same thing. Job describes the destruction of a family among the Arabs and the rendering one of their habitations desolate after the same manner. "How oft is the candle of the wicked put out! and how oft cometh their destruction upon them." On the other hand, when God promises to give David a lamp always in Jerusalem, (1 Kings xi. 36) in this point of view, it is considered an assurance that his house should never become desolate.

Wolf Nurses in India.

An article in Littell's Living Age, copied from Fraser's Magazine, relates some queer stories of boys being stolen by wolves, in the East Indies, and brought up by them, like Romulus and Remus of old. The information is principally taken from a pamphlet published in Plymouth, England, by an Englishman, who had resided for a number of years in the British-Indian possessions. An account is given of two boys who were captured in caves inhabited by wolves. These boys walked on all fours, eat their food raw, and had many wolfish habits. They never could be tamed, although every effort was made for this purpose. The parents of both these boys proved their offspring by certain marks, and asserted that they had been stolen when very young, by wolves.

The article, we perceive, has been extensively copied without a word of comment.—We can give no credit to such stories; they lack the very first quality of positive testimony, namely: the personal evidence of the relater. He did not see the boys himself, he merely received his information from others.

New Steam Mail Line.

The Senate passed a bill on the 5th inst., by a vote of nearly two to one, establishing a line of mail steamers between San Francisco and Shanghai, in China. This line of steamers will touch at Japan.

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